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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

FEBRUARY, 1956

Jet plane crashes and burns in residential section—no fatalities. See page 169

IN THIS ISSUE...

2.1-Mile Relay Aids in Checking California Brush Fire

Training for Salvage Operations

I.A.F.C. Directors Make Plans for Activities during 1956

Illustrated Booklet on Resuscitation

It is not necessary to move an injured person, except that the head and neck must be extended enough to permit the free passage of air through the windpipe. A recommended position is illustrated.
The rescuer watches his patient. He observes the face and the color of the lips (through the transparent mask). From time to time he looks at the eyes and feels for the pulse (at the carotid artery).
Pulling the patient's chin out and forward straightens the windpipe.
Controls within easy reach of the rescuer's hand.
Turning the head to one side allows drainage of fluids from the corner of the mouth.
Aspirator and airway ready for use if needed.
If a coat (or the like) is placed under the shoulder blades, it helps to expand the chest and straighten the windpipe.

If you use an Emerson
write at the earliest opportunity
for your copy
with the compliments of

J. H. EMERSON COMPANY

32 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

Experience

EXPERIENCE writing specifications for a new fire truck, teaches you what features are most important and worthy of inclusion; what capacity and durability are required and what type of fire fighting tools are most vital and dependable.

EXPERIENCE tells you what will serve best in combating a fire and what kind of equipment will get it there most swiftly and surely.

EXPERIENCE teaches you that a dependable siren and warning light are of utmost importance and

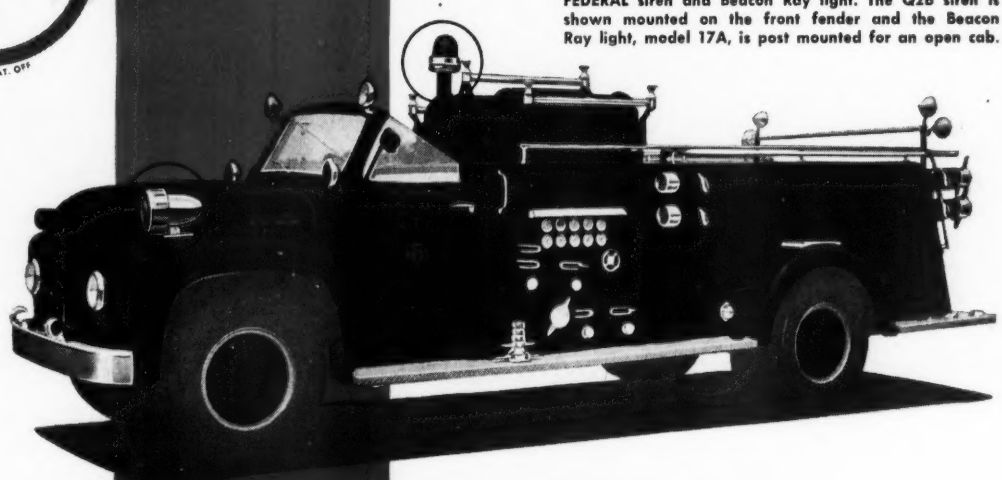
EXPERIENCE also teaches that to be assured of having these on your own vehicle you must definitely SPECIFY FEDERAL coaster sirens and FEDERAL Beacon Ray lights!

EXPERIENCE, yours, and that of other fire fighters, should be enough to convince you! **This** is only to remind you to include these two vital items **by name and model number** in your specifications.
Our literature, which will help you in your selection, will be mailed on request — write to us today for your copy.

EXPERIENCE, FEDERAL'S more than 50 years of designing and perfecting sirens and lights to meet your needs, is absolute assurance of maximum satisfaction!

REG. U. S. PAT. OFF.

This outstanding Class A pumper was built and delivered by the MIDWEST Fire and Safety Equipment Co., Inc. of Indianapolis, Ind. It is a 750 gallon per minute pumper mounted on a Ford F-800 chassis. Protection for this vital piece of equipment is achieved with a FEDERAL siren and Beacon Ray light. The Q2B siren is shown mounted on the front fender and the Beacon Ray light, model 17A, is post mounted for an open cab.



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FIRE ENGINEERING

VOL. 109 FEBRUARY, 1956 NO. 2

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Splitting Seconds

There is no other business or profession in the world where seconds count for so much as they do in the fire service.

The difference between life and death—between safety and disaster, between bonfire and conflagration, may be only a matter of split second timing.

The fire service is continually revising its strategy, its techniques of attack and defense, in the light of not minutes and hours, but split seconds.

In this effort, it looks to the editorial and advertising pages of FIRE ENGINEERING for enlightenment and inspiration.

That is because, through its inexhaustible sources of information, not the least of which is its vast family of technical and engineering contributors, FIRE ENGINEERING is able to bring its reader audience the most authentic, up-to-the-minute information on those subjects where the time element is so vital.

Better still, with its new "dress" we are able to present this essential material to readers and advertisers in most palatable, interesting form.

The Publishers

FIRE ENGINEERING—A CONSOLIDATION OF FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION AND FIRE SERVICE

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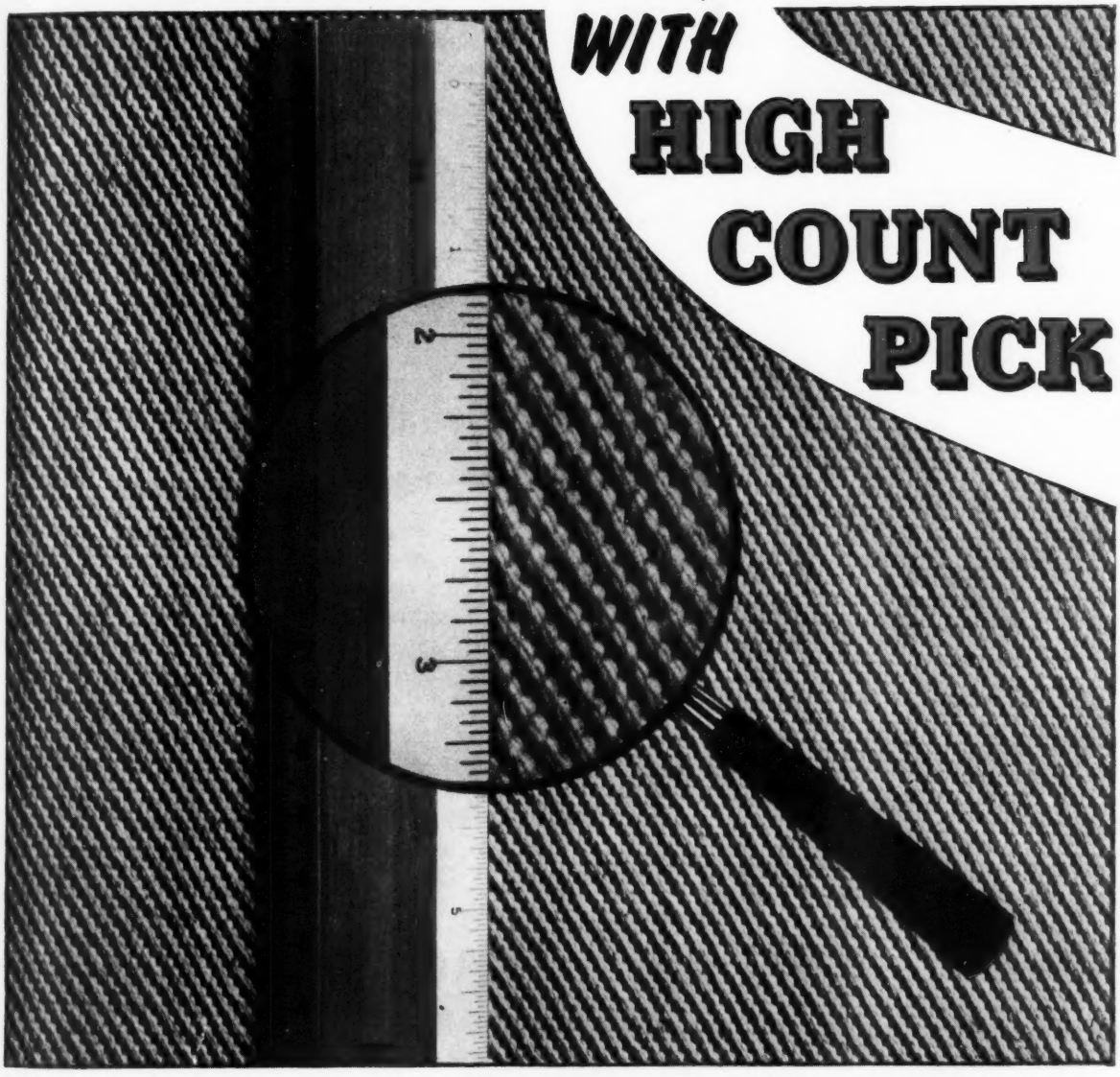
FABRILON

WITH HIGH COUNT PICK



"Pick" **is the number per inch of filler strands, or those which go *around* the hose. FABRILON has the remarkably high pick count of 12 to 14 per inch. In FABRILON, high pick count means *closely woven twill jackets* which *resist abrasion and snagging* and slide over obstacles with *minimum surface friction.* It also means *smooth texture, ease of handling, high burst* and resistance to *pressure shock* or *water hammer.***

FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

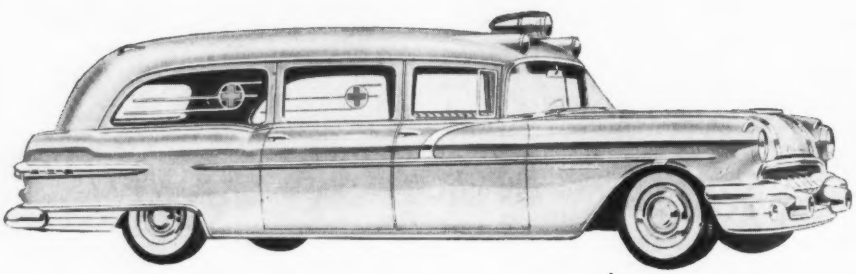
SANDY HOOK CONNECTICUT

IN CANADA BICKLE-SEAGRAVE, LTD. WOODSTOCK, ONTARIO

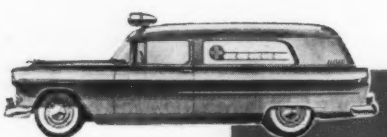
NATIONAL...

■ THE BIG VALUE LEADER IN AMBULANCES

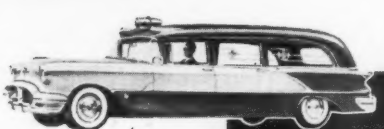
■ YEARS AHEAD IN UTILITY AND PERFORMANCE



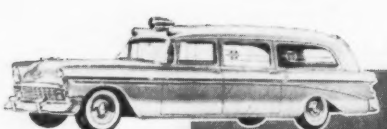
National Minute Man Ambulance
on Pontiac Chassis



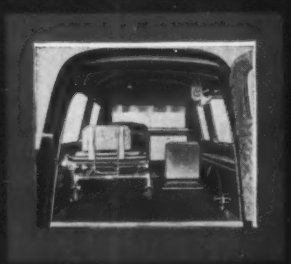
National Ambulette
on Chevrolet Chassis



National Minute Man Ambulance
on Oldsmobile Chassis



National Minute Man Ambulance
on Chevrolet Chassis



National's Minute Man Ambulances, built by master craftsmen to your requirements, on the chassis of your choice . . . in Knightstown, known for fine coaches since 1900.

Write today for Photographs and Specifications

NATIONAL BODY MANUFACTURING COMPANY

KNIGHTSTOWN, INDIANA

New B. F. Goodrich Superseal treatment protects fire hose against mildew attack, rotting and freezing

MILDEW ruins fire hose by causing weak spots that burst under pressure.

Now B. F. Goodrich engineers, who were first to make fire hose light and flexible, have come up with a new chemical treatment—called Superseal—that gives maximum protection against mildew, rotting, moisture absorption and freezing.

The new treatment is not just a surface application. The chemical solution penetrates and protects every cord in both the inner and outer jackets, prepares the hose for all sorts of weather.

Tests show that hose treated by this new B. F. Goodrich method has 10 times better mildew resistance than other treated hose. To prove this, three lengths of hose were buried in a plot of ground that had been infested with mildew spores, maggots and microbes. After 8 weeks, the untreated hose was reduced to powder. The hose treated the old way wasn't much better. But the B. F. Goodrich treated hose looked good as new, still had 96% of its original strength.

Next time you need fire hose, order it from your B. F. Goodrich fire hose distributor—and specify Superseal. It costs no more than ordinary treatments. *The B.F.Goodrich Company, Dept. M-571, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

ALL NEW DESIGN!

Simple...Foolproof...Low Cost

1500 WATT HOMELITE GENERATOR

Model 35A115
Homelite Generator
1500 Watts, 115 Volt
60 Cycle AC

As easy to move as an electric hand saw!

1. New Money-Saving features . . . No DC brushes; just two easy-to-get-at collector ring brushes . . . No commutator or DC windings . . . No intermediate couplings; armature keys directly to shaft. Fewer parts to wear out — longer trouble-free generator service.

2. Constant Voltage . . . less than 4% change from no load to full 1500 watt capacity . . . assures long service life for your electric tools . . . guarantees top performance at all times.

3. Overload Capacity . . . 1500 watt continuous duty with generous overload capacity prevents tool stalling under heavy loads . . . insures uninterrupted service even when starting loads exceed operating loads.

4. Compact and Lightweight . . . one man can easily carry this generator wherever you need electricity to power time-saving electric tools. No need for long, hazardous power-consuming cables.

Whatever tools you want to operate — electric saws, drills, floodlights, grinders, belt sanders, hammers, — the new Homelite 35A115 generator can save you money. For a free demonstration or additional information, call your nearest Homelite representative, or write:

SAVE EVEN MORE! New Homelite electronic idle control unit, available as optional accessory, runs engine at idle speed when no current is drawn . . . automatically brings engine to full speed when load is applied.
Ask your Homelite representative to show you how this easily-installed accessory reduces engine wear . . . increases service life . . . cuts fuel consumption.

HOMELITE *A DIVISION OF TEXTRON AMERICAN, INC.*
302 RIVERDALE AVE., PORT CHESTER, N. Y.
Manufacturers of Carryable PUMPS • GENERATORS • BLOWERS • CHAIN SAWS

Meets the 4 most important Fire-Fighting Hat requirements

...THE M·S·A STREAMLINED FIREMAN'S HELMET

Protection from falling or flying objects, resistance to electric shock, comfort on the job, and durability in service add up to the four-point standard for modern fire-fighting helmets. On each count, the M.S.A. Fireman's helmet has proved its superiority because of these design and material-selection features:

1. IMPACT PROTECTION—The one-piece, laminated construction of the plastic, which is molded under high pressure, takes bumps and blows without passing them on. Reinforced ridge at top aids deflection; sturdy crown hammock cushions blows.

2. DIELECTRIC STRENGTH—A special plastic, selected for its natural resistance to electric shock, is used for the shell construction. Nonabsorbent, this material gives protection that isn't affected by moisture conditions.

3. COMFORT—Very light weight and perfect balance eliminate job fatigue. Soft leather sweatband with sized or adjustable lining permits perfect fit without pressure points. Space between band and hat provide ventilation.

4. DURABILITY—Helmet will not soften or deteriorate when exposed to water or common chemicals. Material and design prevents twisting or warping when exposed to heat.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Streamlined design has plenty of eye appeal. Shields are made of full-grained leather in black, white or red. Color combinations available. Easily zipped-in winter linings assure all-weather comfort. Write for details.

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver
Sydney, N.S. • Representatives in Principal Cities
in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

Call the M.S.A. man on your every safety problem . . . his job is to help you

When Seconds Count!...

Count on

DUO Safety

FIRE LADDERS

PHOTO BY
PHILA. FIRE DEPT.

Here's the proof, in action, of the superior quality, safety and dependability of the famous Duo-Safety line of aluminum fire ladders. The ladder in the above photograph, playing such an important part in the rescue of an unconscious victim, is the Duo-Safety 500 Series Tubular Rail Model. Note how straight and sturdy the rails remain, even under extreme weight. Note, too, that the absence of any projections or sharp, jagged edges provides a smooth rail surface to permit sliding the victim down safely and rapidly. Yes . . . you can count on all ladders in the great Duo-Safety line for the kind of performance that only highest quality delivers. Write today for free, colorful file catalog giving complete information.

DUO-SAFETY LADDER CORP.

809 NINTH STREET, OSHKOSH, WIS.

ook what's happened to Fire Pumps

Waterous announces first fully power-controlled fire pump

(A)

Here's a fire pump which introduces a new era in fire fighting equipment. The new WATEROUS *Electro-Matic** is entirely new in design for latest fire service chassis, and offers full power control for each vital step in pump operation.

This new concept in operating speed and simplicity is made possible only through WATEROUS designs. Built into the *Electro-Matic* are latest electric power controls which have been proved thoroughly dependable in thousands of automotive applications. (B)

Electric shifting. (A) Takes but a flip of a switch to engage pump.

Push-button priming. (B) Press a control panel button, and the famous WATEROUS electric primer leaps into action.

Electrically operated transfer valve (C) is independent of engine speed or pump pressures. Change-over, which can be made at any rated pressure setting, is rapid, yet never so sudden that it produces shock pressure changes.

When switch is flipped from "pressure" to "volume" (or vice versa) indicator lights show instantly when change is completed.

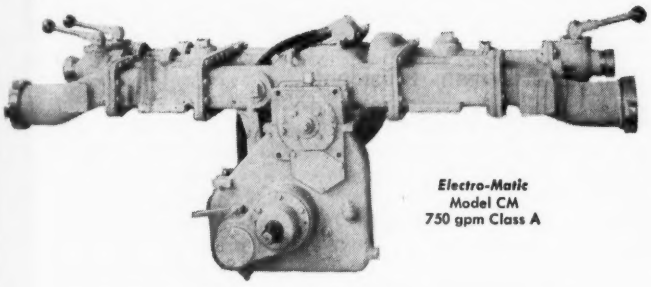
Power-operated discharge valve. (D) Simply push a button to adjust the valve setting! Lift your finger, and it locks in the position. The control panel dial instantly shows the valve setting.

Check these additional control features. The relief valve, mounted on the panel, can be put into or taken out of operation *hydraulically* without cancelling pressure setting. The new manifold drain valve, with a single panel-mounted control drains *8* points simultaneously.

Higher performance — Minimum space. The *Electro-Matic*, with specially designed impellers and scientifically contoured waterways, provides higher performance with minimum over-all space requirement. (C)

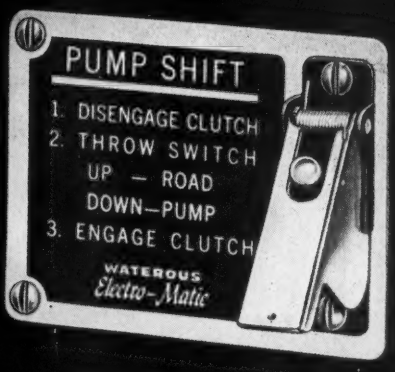
Dependability assured. Helical, constant-mesh transmission gears are incorporated in the *Electro-Matic* together with famous WATEROUS design features including: easy-to-remove, horizontally split, two-piece casing; 3 outboard oil-lubricated impeller shaft bearings; water-lubricated stuffing boxes with split glands. These features are all retained in the *Electro-Matic* to assure utmost dependability.

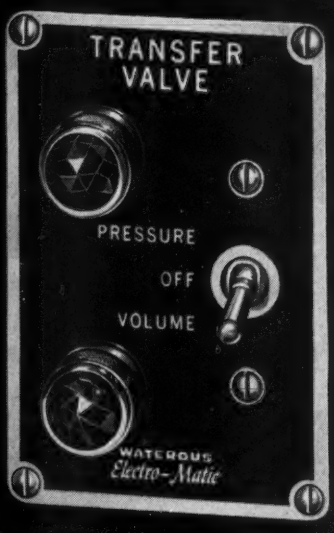
If your community is in the market for a new pumper, you'll want to learn more about the modern *Electro-Matic* Fire Pump, now available in 500, 600, 750, and 1,000 gpm Class A capacities. Write Waterous Company, 40 Fillmore Ave., St. Paul, Minn.

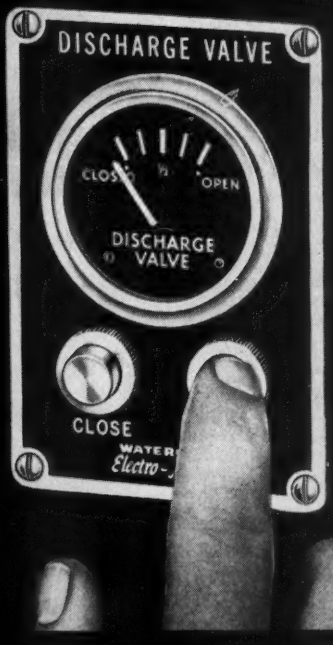


Electro-Matic
Model CM
750 gpm Class A

(D)







WATEROUS
Electro-Matic

*Registration applied for.

TO ALL FIRE SERVICES
AN ANNOUNCEMENT
FROM WARD LaFRANCE

After 38 years of distinguished service to Fire Departments, we, of Ward LaFrance, are pleased to announce our association with the GLEN ALDEN CORPORATION.

This change will join our company with a well diversified and growing industrial family. Through Glen Alden's multiple resources, future growth and technical developments of our products are assured to give the Fire Services the finest available apparatus of all types. Additional growth and service, long a policy of Ward LaFrance, can now be expanded.

We will continue to be known as Ward LaFrance Truck Corporation and our widely accepted product, service, policy and personnel will be continued.

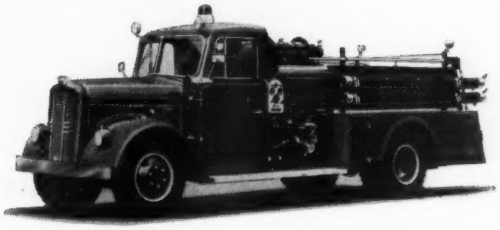
We sincerely thank Fire Services for the confidence they have shown in the past and we at Ward LaFrance will make every effort to merit such confidence and respect in the future.

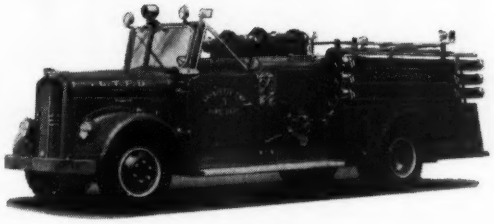
J. G. Grossman, President
WARD LaFRANCE TRUCK CORPORATION

Early Delivery on

WARD LaFRANCE

Fireball Special





America's NEW low-cost fire truck delivered in 30-60 days

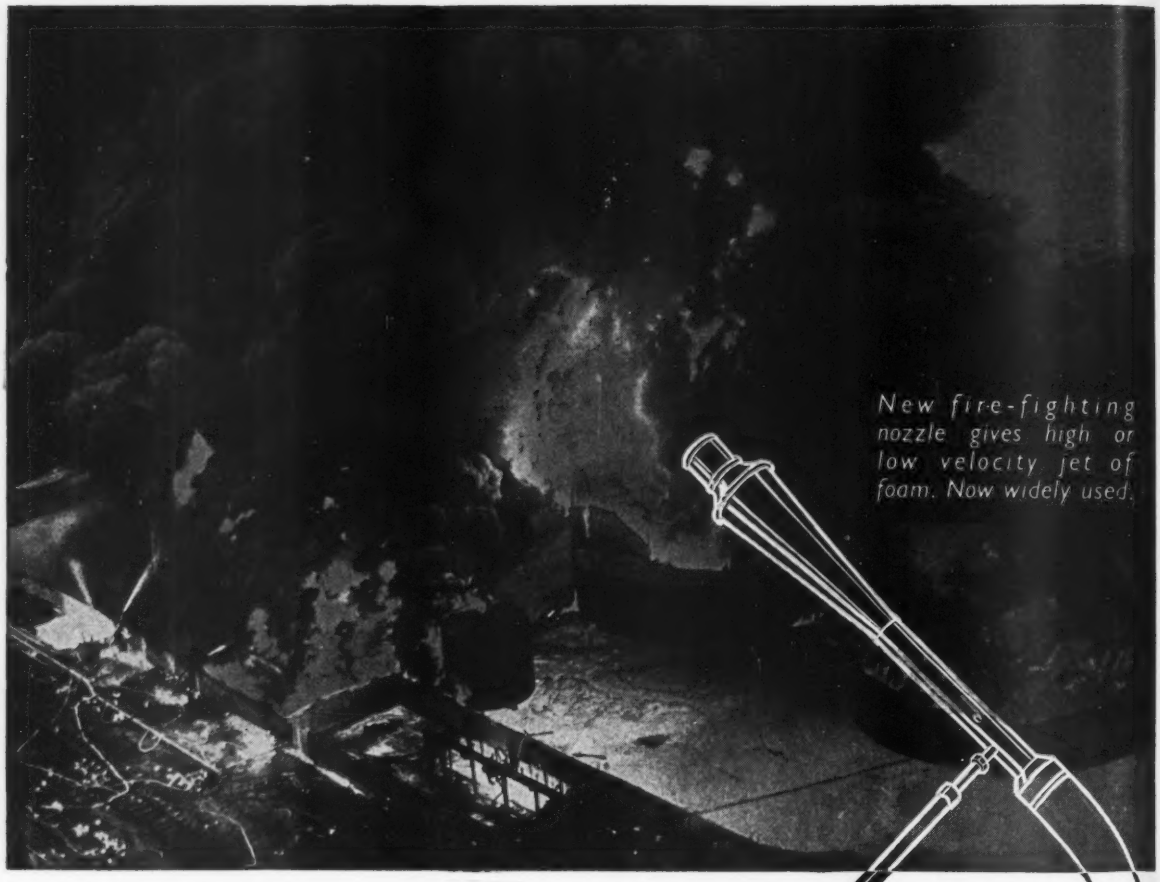
In response to popular demand, production lines at Ward LaFrance have been set up to permit early delivery of Fireball Specials. Now . . . in a matter of days . . . this modern, low-cost truck can become part of your fire-fighting force. Proven in service over the past year and a half, this truck has received widespread praise and public acceptance.

The Fireball Special is engineered and built for long years of hard service . . . offers quick starting, fast flexible operation and generous pumping power. Particularly well-suited for suburban and rural fire company use, it incorporates a Chrysler Firepower 183 HP engine, 500 or 750 GPM pump, 500 gallon booster tank, plus other outstanding features. Write for full details on the Ward LaFrance Fireball Special . . . but do it now!

WARD LA FRANCE TRUCK CORPORATION

Fire Apparatus Manufacturers for over 38 Years

GENERAL OFFICE & FACTORY: Grand Central Avenue, Elmira, N.Y. Tel. 3-5631. **DIRECT FACTORY BRANCH:** 139th Street & Bruckner Blvd., New York 54, N.Y., Tel. CYpress 2-3300. **EXPORT:** Ward LaFrance International, Inc., Elmira, N.Y., U.S.A., Cable Address: "Wardtruck"



This is the type of fire that is

KILLED FAST BY

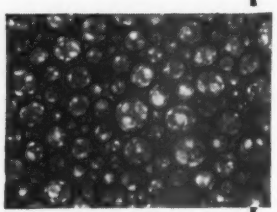
Nicerol

Foam Blanket— AND WILL STAY DEAD

A dense blanket of adhesive, cohesive foam which actually follows the fire, stifles it, outlasts it and prevents flash-back — that's Nicerol, most widely used foam compound in the world.

Nicerol, with pH 6.8 to 7.3, ensures freedom from corrosion in equipment and storage drums. It does not form sludge. 3 gallons of Nicerol NLXX (3%) Foam Liquid with 100 gallons of water, fresh or salt, forms 1,000 gallons of foam.

It can cost you nothing to test Nicerol this way. Write the one word SAMPLE on your official stationery and we will send you, freight pre-paid anywhere in the U.S.A. or Canada, a 5 gallon can of Nicerol NLXX (3%) for $20 C.O.D. (or please enclose draft). The $20 cost of this sample will be deducted from your first 100 gallon or larger order for Nicerol.



Phot micrograph X30, showing closely-knit bubble blanket of Nicerol foam, strongly cohesive, adhesive, outlasting the fire.

Full technical and commercial details available from:—

GEORGE REYNOLDS & ASSOCIATES, P.O. BOX 395, THORNWOOD, NEW YORK.
THE GENERAL DETROIT CORP., P.O. BOX 263, DETROIT 32, MICHIGAN.
THE GENERAL PACIFIC CORP., 8740 WEST WASHINGTON BLVD., CULVER CITY, CAL.

IN COLUMBUS, O., the stronger hose made with "Dacron" is preferred because it needs less maintenance.

IN MIAMI, FLA., "Dacron" is specified as filler cord because it resists weakening by mildew . . . a real problem in semitropic climates.

IN AUGUSTA, GA., hose made with "Dacron" is used "because it's easier to coil and rack . . . dries faster, too."

SCHENECTADY, N.Y., Fire Department averages two calls per day . . . reports, "Hose made with 'Dacron' gives better all-around performance."

Schenectady Fire Department reports:

"Hose made with DACRON is lightweight...gets into action fast"

REG. U. S. PAT. OFF.

The Schenectady Fire Department uses 5,000 feet of hose made with "Dacron"*. Like other fire chiefs across the country, Chief Edward M. Moffett reports better all-around performance from fire hose made with "Dacron" polyester fiber. Used as the load-carrying "filler" cord that reinforces the hose, this Du Pont fiber permits a hose that's light and flexible—yet *stronger* than ordinary hose of the same construction.

Du Pont makes "Dacron" and supplies the yarn to hose manufacturers. The combination of the unusual properties of "Dacron" plus hose manufacturers' skill has resulted in a superior fire hose. Hose made with "Dacron" is made by all leading fire-hose manufacturers. The next time *you* need hose, be sure it's made with "Dacron". E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

**"Dacron" is Du Pont's registered trademark for its polyester fiber.*

ADVANTAGES OF FIRE HOSE MADE WITH "DACRON":

- Lighter
- Dries faster
- Cuts loading time
- Stronger
- More flexible
- Saves space

For Better All-Around Performance Specify Hose Made with "Dacron"

POLYESTER FIBER

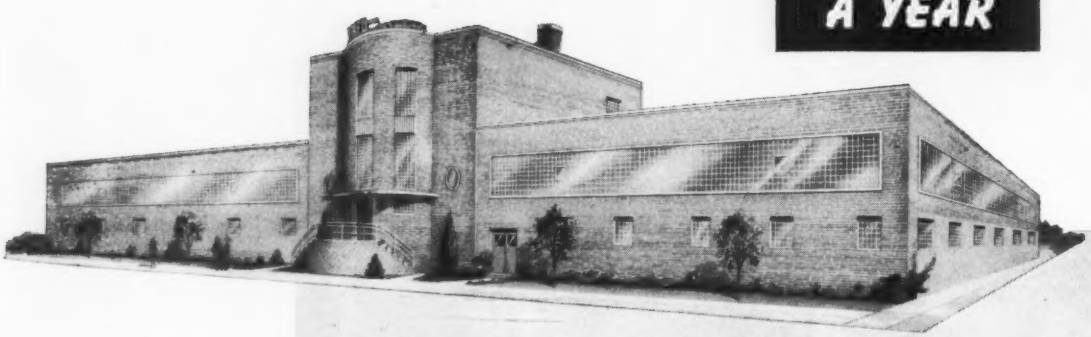
DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

TREO Corseting protects its property *Automatically*.... gets better FIRE and BURGLARY PROTECTION and

SAVES $10,000 A YEAR



ADT Automatic Protection Services against fire, burglary, and failure of our heating and air-conditioning systems have proved highly satisfactory and much more economical than less effective methods. We estimate our payroll savings at approximately $10,000 a year. These services have afforded us far better protection for our property, profits and employees' jobs than is otherwise possible, in addition to the substantial savings in actual cost of operation.

TREO COMPANY, INC.

Secretary-Treasurer

Why not find out what ADT can do for you?

ADT

Whether your premises are new or old, sprinklered or unsprinklered, there is an appropriate ADT Fire Alarm Service to detect fire and notify the fire department *automatically*. ADT Burglar Alarm Service will *automatically* summon police when burglars attack. ADT Heating and Industrial Process Supervision will *automatically* detect and report other abnormal conditions.

An ADT specialist will show you how combinations of automatic services can safeguard your property. Call our local sales office if we are listed in your phone book; or write to our Executive Offices.

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY

A NATIONWIDE ORGANIZATION

Executive Offices: 155 Sixth Avenue, New York 13, New York

Now–more fire-fighting power than ever!

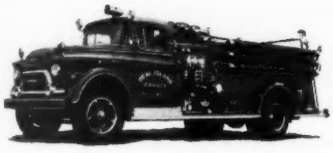
Yours with a Barton

SUPER-FOG GUN

For operating ease, superior power and quality, the Barton Super-Fog Gun rates *tops* with thousands of firemen. Now additional refinements give you even *more* convenience—*more* fire-fighting power than ever!

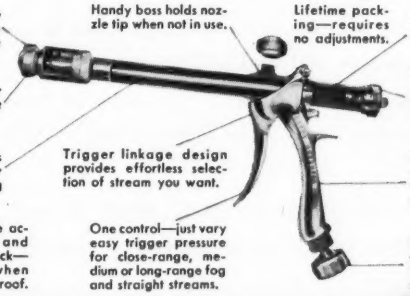
Study the excellence of every feature, every detail of this gun. Compare it to any other—and you'll see why users call it a "most valued accessory" on every American Fire Truck.

Exclusive with American Fire Trucks



TWO BARTON SUPER-FOG GUNS are included as standard equipment on all American Fire Trucks—midship or front-mounted pump models.

Only the Barton Super-Fog Gun has all these quality features!



- Removable nozzle tip conserves water. Large tip for volume when required.
- Handy boss holds nozzle tip when not in use.
- Lifetime packing—requires no adjustments.
- Stainless steel corrosion-resistant spring.
- Knurled knob adjusts—holds any stream desired. A slight turn open prevents freezing in cold weather.
- Non-restricted water passage with no slot to plug.
- All close-grained brass construction, heavily chrome plated for long life and use.
- Trigger linkage design provides effortless selection of stream you want.
- Palm-fitting pistol grip for comfortable, secure holding with one hand when climbing ladder.
- Non-pressurized valve action when opening and closing eliminates shock—a safety feature when working on ladder or roof.
- One control—just vary easy trigger pressure for close-range, medium or long-range fog and straight streams.
- Non-kinking swivel hose connection set on angle makes hose follow without strain on operator's hand.

Contact your American Representative soon! *Write for this new apparatus bulletin.*

American

AMERICAN FIRE APPARATUS CO.

Main Office: Main Street Road, Battle Creek, Mich. • Plants at: BATTLE CREEK, MICH. • MARSHALLTOWN, IA.

See why the big switch is to FYR-FYTER SUPER FYR-FLEX

Fire departments from coast to coast are replacing conventional cotton rubber-lined hose with Super Fyr-Flex made with Dacron* polyester fiber filler cord . . . and here's why:

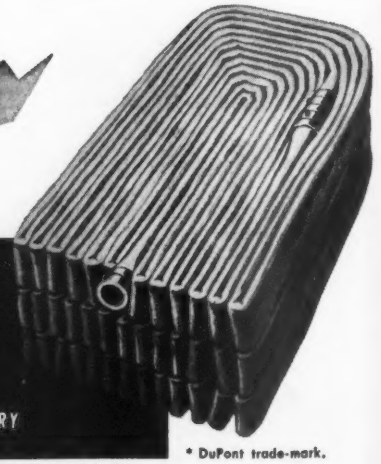
1. Fyr-Fyter's Super Fyr-Flex is 15 to 20% *lighter* . . . it's easier and faster to put into action!
2. It's three times *stronger* . . . withstands 50% greater pressure! Available in 600 and 400 lb. test.
3. Super Fyr-Flex *dries out faster* . . . it picks up less than 1% of moisture compared to 48% by ordinary cotton hose. It's lighter wet or dry!
4. It's *more flexible* and *less bulky* . . . easier to handle, and packs into less space!
5. Super Fyr-Flex has much *greater resistance* to heat, chemicals, acids, mildew and abrasion!

All these benefits add up to *greater performance, longer service* and *more economy.*

See a sample of Super Fyr-Flex soon. . .

CALL A FYR-FYTER REPRESENTATIVE TODAY . . .
OR WRITE FOR DETAILS ON SUPER FYR-FLEX HOSE

FF-7



The Fyr-Fyter (FIRE) (FIGHTER) Co.

221 CRANE STREET, DAYTON 1, OHIO

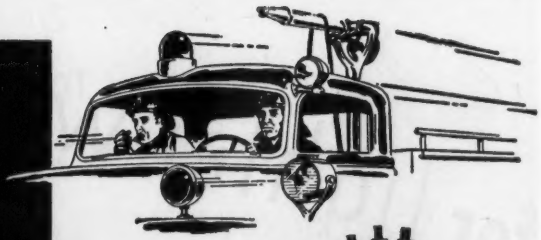
REPRESENTATIVES IN PRINCIPAL CITIES

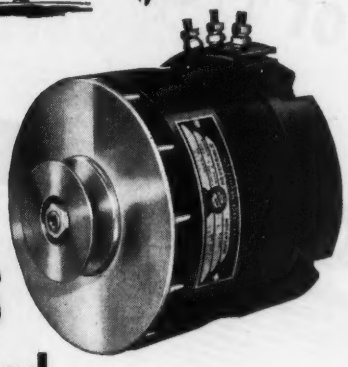
OUR 40th YEAR OF MANUFACTURING . . . THE MOST COMPLETE LINE IN INDUSTRY

* DuPont trade-mark.

BRANCH OFFICES: NEW YORK, BOSTON, PHILADELPHIA, CHICAGO, ATLANTA, DALLAS, SAN FRANCISCO, PORTLAND, SEATTLE

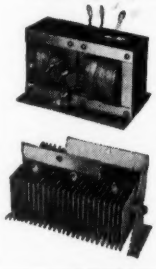
Leece-Neville





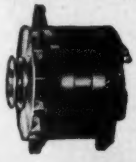
AC-DC ALTERNATOR SYSTEMS Guarantee the Current You Need to Get to the Fire... and to Fight the Fire

110 VOLTS FOR POWER TOOLS, LIGHTS



Installation of a Leece-Neville Transformer and 110 volt Rectifier with your L-N Alternator will provide up to 1200 watts of 110 volt d.c. current for spot and flood lights, half-inch drill, power saw etc. Send for special bulletin.

A GENUINE L-N ALTERNATOR AT A SENSATIONAL LOW PRICE



For loads up to 60 amps at 6 volts or 50 amps at 12 volts, see the new L-N Standard Alternator System that costs *less* than "extra" output d.c. generator.

Sirens, lights and 2-way radio make a heavy electrical load that can drain the battery. Leece-Neville Heavy-Duty Alternators, which replace conventional d.c. generators, have the capacity to carry the load: up to 95 amperes for 6 volt systems; to 180 amperes for 12 volt; to 100 amperes for 24 volt.

At the fire, L-N Alternators produce up to 40 amperes with the engine idling, keep batteries "up" and permit use of 2-way radio.

THE ORIGINAL AC-DC GENERATING SYSTEM — RECOGNIZED EVERYWHERE

Since 1946 more and more Fire Departments have made L-N Alternators standard. Some of these are Atlanta, Boston, Buffalo, Chicago, Cleveland, Dallas, Denver, Detroit, Los Angeles, Miami, Montreal, New York, Pittsburgh, Toronto, and many others, large and small.

Be sure to specify Leece-Neville on new apparatus and in your modernization program. For all the facts, and name of your L-N Distributor, write The Leece-Neville Company, Cleveland 3, Ohio. *Distributors in principal cities . . . Service Stations everywhere.*

YOU CAN RELY ON Leece-Neville

Automotive Electric Equipment Since 1909

TRUCK • BUS • DIESEL • INDUSTRIAL • PASSENGER • RAILROAD • MARINE • OFF HIGHWAY

ALTERNATOR SYSTEMS

D C GENERATORS

CRANKING MOTORS

REGULATORS

SWITCHES

SMALL MOTORS

for lighter weight and GREATER STRENGTH

SPECIFY

REPUBLIC'S DACRON FILLER

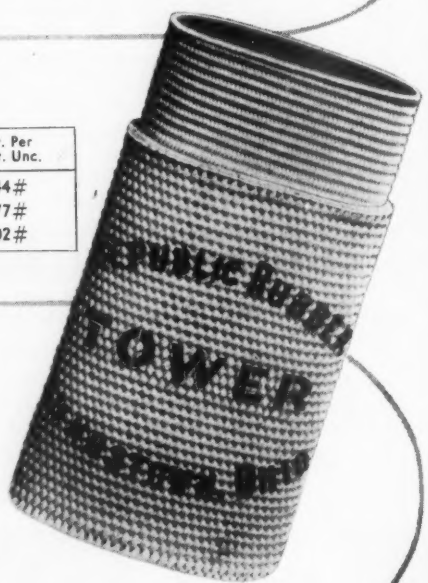
MUNICIPAL FIRE HOSE

Champion 600# Test Pressure

Size	O.D.	Test Pressure	Wt. Per C Ft. Unc.
1½"	2 "	600#	45#
2½"	3 1/16"	600#	79#
3 "	3 5/8"	600#	107#

Tower 400# Test Pressure

Size	O.D.	Test Pressure	Wt. Per C Ft. Unc.
1½"	1 33/64"	400#	44#
2½"	3 3/16"	400#	77#
3 "	3 13/32"	400#	102#



In addition to these Dacron Filler types, Republic makes two Cotton Filler, Double Jacket types: K-122 Chariot and K-127 Target, both for 400# Test Pressure.

Republic Municipal Fire Hose is Provar Processed as standard construction for mildew prevention and is flat-cured, permitting easy handling and storage of more footage. Send us your order or request for quotation.

"Quality Hose Builders for Over 50 Years"

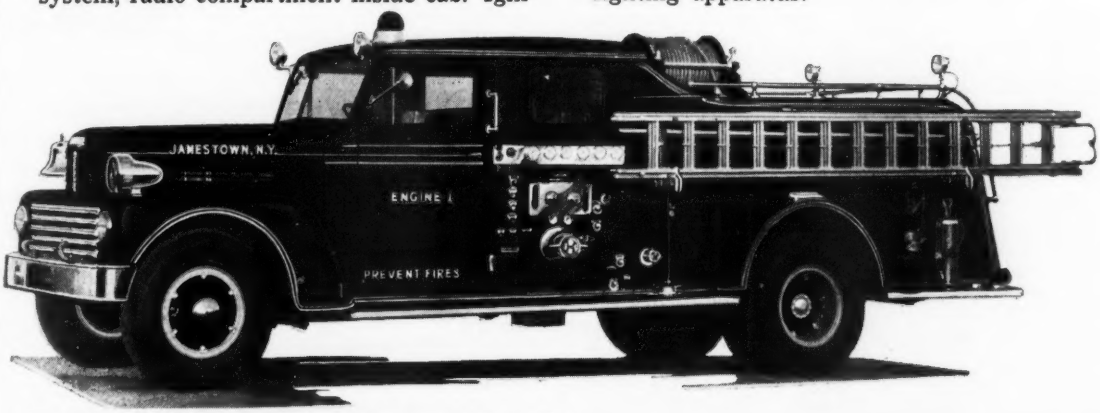
REPUBLIC RUBBER DIVISION

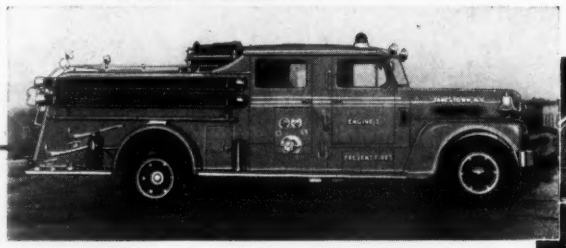
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

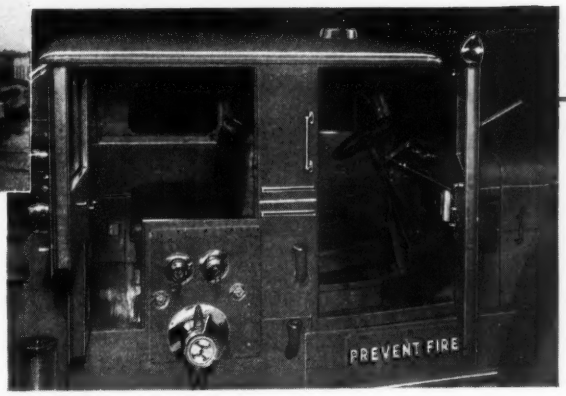
INDUSTRIAL RUBBER PRODUCTS

Pride of the Department . . .
Dependable Performer . . .
. . . A HOWE DEFENDER

In this triple combination 1,000 GPM pumper with five-man sedan type cab, a full crew will get to fires in Jamestown, N. Y., under maximum protection, ready for action with today's most modern fire fighting equipment. Powered with a 250 HP Waukesha slow-speed engine, this custom built HOWE DEFENDER has dual ignition, dual batteries, dual fuel pumps, a Leece-Neville 100 ampere high output generating system, radio compartment inside cab. Ignition system is operated by a single four-position switch. Batteries are mounted on a sliding tray for servicing. Booster tank, with removable top, has 300 gallon capacity. Exclusive Howe pump prime indicator. Hose carrying capacity is 1,500 feet of 2½" line. Six built-in compartments. These are among the features important to reducing fire losses which are available in a HOWE pumper. Look to HOWE first for the best in fire fighting apparatus!







Cab interior is completely, handsomely lined. Fully adjustable Bostrom driver's seat. Two men ride in front, three on full width seat facing rear. Three doors, two on officer's side. Sliding glass window installed in rear of cab. Our complete line includes the truck and equipment YOU need!

HOWE

Member FAAI (Fire Apparatus Manufacturers Association)

HOWE

APPROVED BY THE
NATIONAL BOARD OF FIRE UNDERWRITERS

"dependable fire apparatus since 1872"

FIRE APPARATUS COMPANY

Dept. FE26, 1406 W. 22nd St., Anderson, Ind., U.S.A.

MIDWESTERN

Safety Clothing for FIREMEN

The Original
STRIPED SAFETY COAT

- ☆ ***New Yellow Rubber Stripes!***
- ☆ ***Maximum Visibility!***
- ☆ ***Maximum Durability!***
- ☆ ***Exclusive Safety Features!***

YOU deserve the BEST PROTECTION OBTAINABLE for your hazardous work of protecting life, and property against fire. The Mackinaw Safety Coat with new yellow stripes is the answer! Highly visible stripes are rubberized as part of the material . . . not painted, glued or sewed on. Tests indicate that the new yellow, like black, retains its natural color and has the same durability.

There are many imitations but no substitute for the superior quality, design, fabric texture and safety features you get by specifying MIDWESTERN!

MIDWESTERN
COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Detachable wool lining. Pants have double-stitched seams, reinforcing rivets at points of strain, large roomy pocket space.

For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

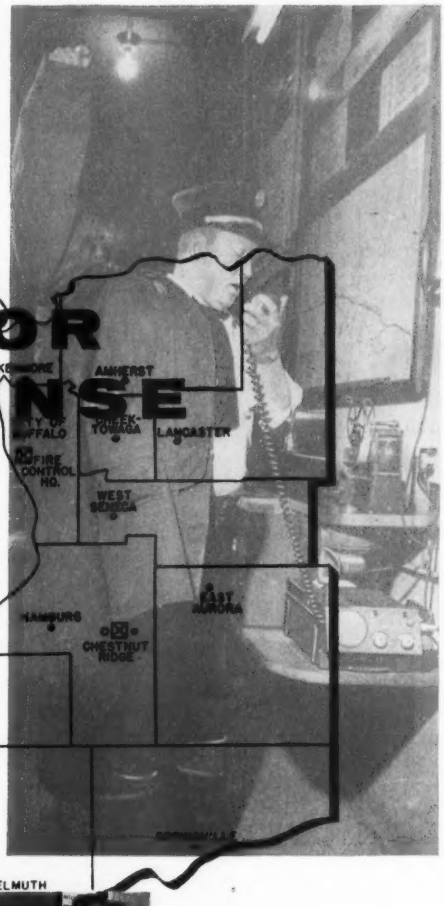
NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Safety Coats**

ERIE COUNTY FIRE RADIO SYSTEM . . .

READY FOR CIVIL DEFENSE



ENTIRE BUFFALO N. Y. AREA NOW PROTECTED WITH INTEGRATED COMMUNICATIONS

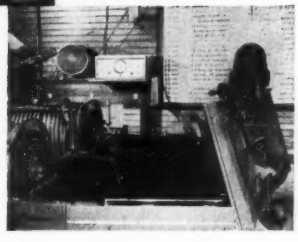
THE PROBLEM: Coordinating the activities of 96 volunteer fire companies with those of the City of Buffalo fire department for fire-fighting, Civil Defense and other emergencies.

THE ANSWER: Only a custom engineered two-way radio system could handle it. The Federal Civil Defense Administration approved the Erie County CD Communications project. After lengthy engineering study and exhaustive performance tests, Motorola equipment was chosen for the entire communications network.

In and working now, the county volunteer radio system normally functions separately from the city system. The county system has 10 base stations—each controlling the volunteer fire trucks in a certain area. In emergencies, the main Motorola radio control center takes over, and—with fingertip control—can integrate both systems . . . combining the efforts of *every* fire-fighting unit in Erie County, *in minutes*.

With fire protection greatly increased and a Civil Defense network on call 24 hours a day, the Buffalo area sleeps easier these nights. Talk over *your* needs with a Motorola Communications Engineer. He's ready to discuss complete details of CD radio systems and FCDA certified equipments. Write, phone or wire Motorola today.

Base station (one of 10) calls volunteer co's.—controls and coordinates their activities.



Receiver in station house operates siren when call comes in. Radio on truck keeps constant contact—to, from and at fire.

MOTOROLA

2-WAY RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC.
A SUBSIDIARY OF MOTOROLA, INC.
4501 AUGUSTA BOULEVARD • CHICAGO 51, ILLINOIS
ROGERS MAJESTIC ELECTRONICS LTD. TORONTO, CANADA

Motorola consistently supplies more mobile and portable radio than all others combined.
Proof of acceptance, experience and quality.
The only COMPLETE radio communications service—specialized engineering...product...customer service...parts...installation...maintenance...finance...lease.
"The best costs less—specify Motorola."

Photo by Phila. Fire Dep't.

Here is the fire hose for QUICK ACTION...EASY HANDLING COMPACT STORAGE

Save time by ordering Quaker-Quaker Pioneer fire hose from nearest distributor. We'll gladly send you his name together with free brochure containing worthwhile information on fire hose. Write.

Flexible for speedy transfer from truck to fire! Lightweight for easy, strain-free handling! Flat-folding for more footage with less bulk in truck space! These are some of the reasons why fire departments standardize on this Fire Hose of extra sturdy DuPont Dacron. Compared to conventional hose, this fire-fighter withstands 50% greater pressure. Also, it resists heat, chemicals, abrasion. Saves time, too . . . because of the strong quick-drying Dacron filler thread combined with double cotton warp jacket surrounding its nonporous tube. Rigidly tested under hydrostatic pressures far in excess of those they would normally get in action. Available in Delaware-Victor Brand rated for 600 pounds and Bond Battleship Brand rated for 400 pounds. For water and chemical fire hose for every industrial need specify Quaker-Quaker Pioneer.

DIVISIONS OF HKP H. K. PORTER COMPANY, INC.

H. K. PORTER COMPANY, INC.

QUAKER RUBBER DIVISION
Philadelphia 24, Pa.

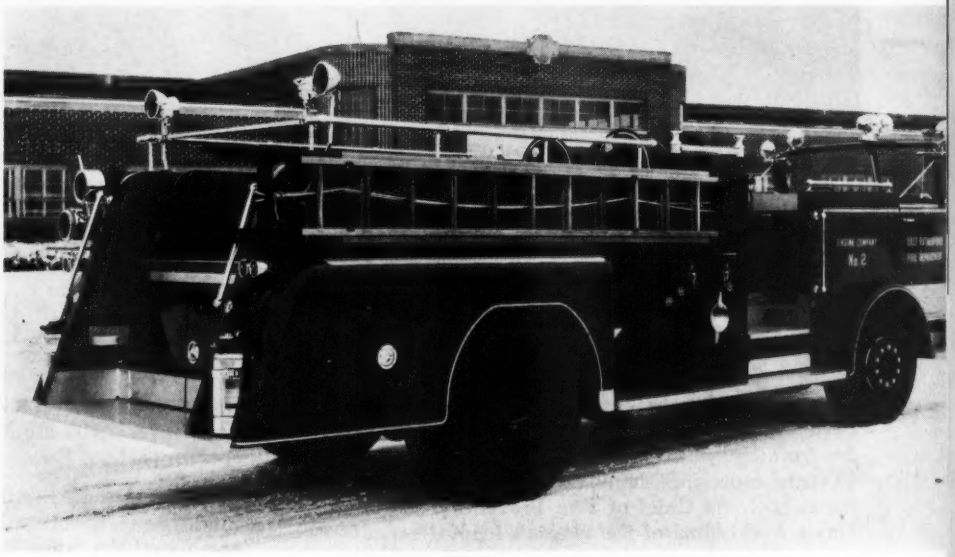
QUAKER PIONEER RUBBER DIVISION
San Francisco 7, California

THE NEW Ahrens-Fox FIRE APPARATUS BY BECK

CHECK THESE STANDARD FEATURES

- √ Five-man Cab
- √ Curved Windshield
- √ Quadruple Headlights
- √ Waukesha Motor
- √ Hale Pump
- √ Full Length Frame
- √ Timken Axles
- √ Fuller Transmission
- √ Spicer Driveline
- √ Lipe Clutch
- √ Cle Draulic Shocks
- √ Budd Wheels
- √ Ross Steering Gear

MODEL FCB 1000



Three reasons why you should demand AHRENS-FOX FIRE APPARATUS

Your community's protection demands the finest fire equipment available today. Your answer is the new Ahrens-Fox pumper, custom built to meet your community's particular needs. Here's why:

CUSTOM ENGINEERED to give maximum performance over the most rugged conditions. Ahrens-Fox pumpers are available in sizes ranging from 750-1500 gpm.

CUSTOM DESIGNED to give the most modern appearance, easier control, better vision, and greater safety.

CUSTOM BUILT from the ground up to insure the high quality standards that have long been associated with Ahrens-Fox Fire Apparatus.

Write, wire or phone for complete detailed specifications and quotations on your fire equipment needs.

C. D. BECK & COMPANY, INC., SIDNEY, OHIO, U.S.A.

Veteran Chief takes post-graduate training at Ansul fire school...you can too

Throughout his entire career, Floyd Dumas has practiced what he preached . . . *you can't have too much fire training.* So it was logical that this veteran of 29 years' experience should attend Ansul's Fire Training School. As Chief of Fire Prevention for Parke Davis & Co., one of the nation's leading manufacturers of pharmaceuticals, his responsibilities are tremendous. The information Floyd took home from the Ansul School was passed on to each member of his staff who will be better firefighters for it.

You too can have this training. Ansul is the nation's pioneer in the field of fire training, and the only manufacturer to offer this important service to its customers. It is just one of many "extra" services made available to all Ansul users. And there is no charge whatsoever. Since 1940 this unique school has graduated over 2,800 students from all over this hemisphere, parts of Europe, Asia, and the Middle East.

Training at the Ansul Fire School is of the practical kind. The classroom is Ansul's five-acre test field containing all the latest equipment, and staffed by expert instructors. You owe it to your business, to your position, to learn more about the Ansul Fire Training School.

Get in touch with your local ANSUL MAN through the yellow pages of your phone directory, or write to THE ANSUL CHEMICAL COMPANY, DEPT. FE-2, MARINETTE, WISCONSIN.

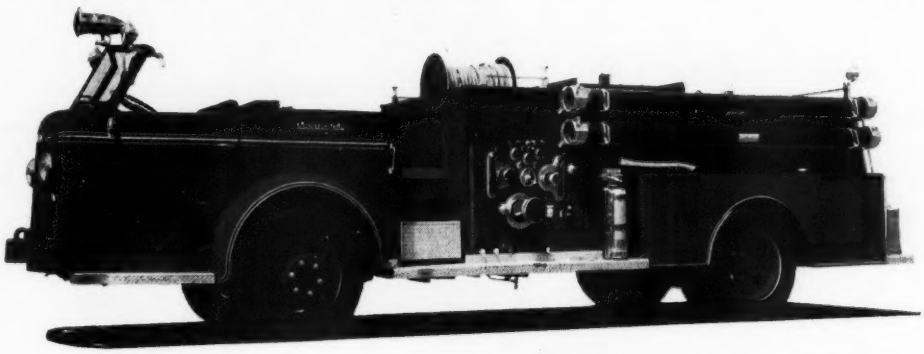
ANSUL

New AMERICAN LAFRANCE Models

RANGER 500 G.P.M. Pumper

CRUSADER 750 G.P.M. Pumper

PROTECTOR 1000 G.P.M. Pumper

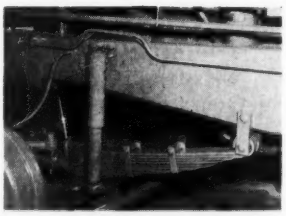


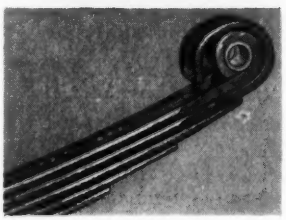
PROTECTOR, 1000 g. p. m. Class A

Give You *Extra Values* for Better Riding, Greater Driving Control, Safer Operation

• Check these *Extra Values*

• Direct Acting Shock Absorbers, Rear and Front.





• Added safety feature on springs is "wrap-around" second leaf to preserve steering and alignment control.

Control of a fire engine on the highway involves more than steering and brakes. American LaFrance engineers have provided a combination of spring rate and shock absorber action to give the safest, smoothest controlled ride without pitch, bounce or roll on the roughest streets or highways.

The long springs, 54" center to center on front, and 60" center to center on rear, contribute to this outstanding performance. The direct acting shock absorbers at both front and rear axles provide the smooth control for safety and stability. The springs have the added safety feature of a "wrap-around" second leaf at each spring eye.

See our representative for details and specifications

AMERICAN LAFRANCE CORPORATION

ELMIRA, NEW YORK, U. S. A.

LAFRANCE FIRE ENGINE AND FOAMITE LIMITED

TORONTO, 9, ONTARIO, CANADA

2-WAY RADIO BLANKETS WAYNE COUNTY

Radio-Controlled Mutual Aid Has Improved County-Wide Fire Protection

● Chief John Stephan coordinates county-wide fire fighting at mobile headquarters in Lyons, New York.

● Volunteers at Palmyra, New York call direct from the fire scene for assistance from nearby town.

2-WAY MOBILE RADIO

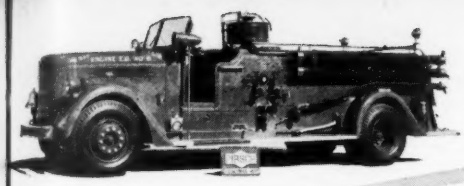
FREQUENCY STABILITY & SELECTIVITY
guaranteed for life!

Here is a situation where 27 volunteer fire departments banded together under one G-E mobile radio system. The result? Every town in their 607-square mile area enjoys vastly-improved fire protection. For emergency and routine calls . . . for civil defense drills . . . General Electric 2-way radio is the communication channel that coordinates all activities. It saves minutes, miles, and operating money in dispatching rolling apparatus to the scene of action . . . wherever it may be.

G-E mobile radio was selected after comparing routine and emergency performance standards on all makes. Because of low initial cost and bedrock maintenance, G-E won the bid. You can duplicate Wayne County's success with volunteer groups in *your* county. Contact Chief Stephan for a firsthand report that proves G-E is your best buy! Or, write us direct: *General Electric Company, Section X5926, Communications Equipment, Electronics Park, Syracuse, New York.*

Progress Is Our Most Important Product

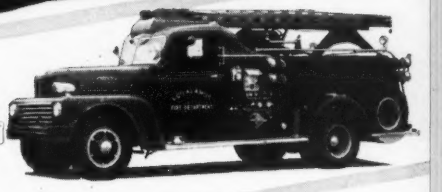
GENERAL ELECTRIC



PIRSCH
EST. 1857

WARD LA FRANCE

FWD



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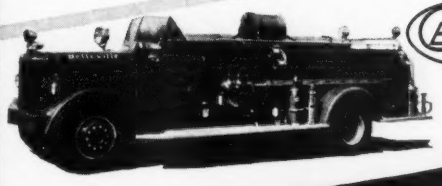
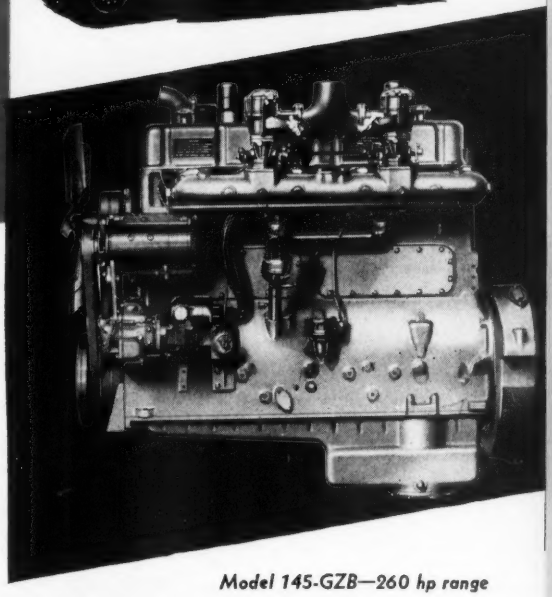


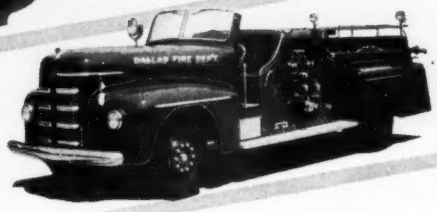
CENTRAL

with ALL these Fire Fighters WAUKESHA the preferred POWER



Model 145-GZB—260 hp range

OREN



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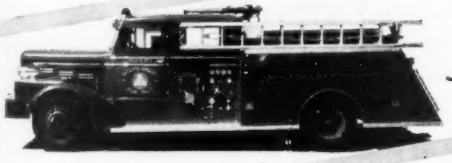

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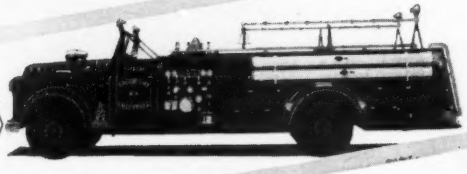

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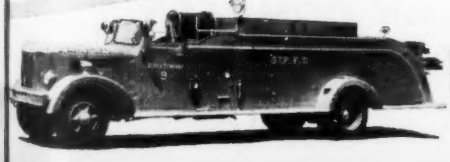

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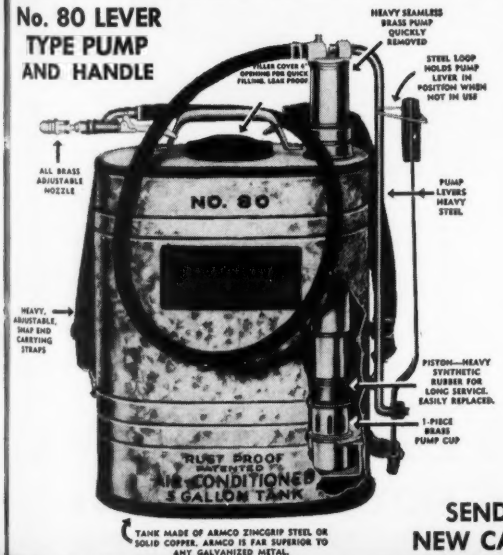
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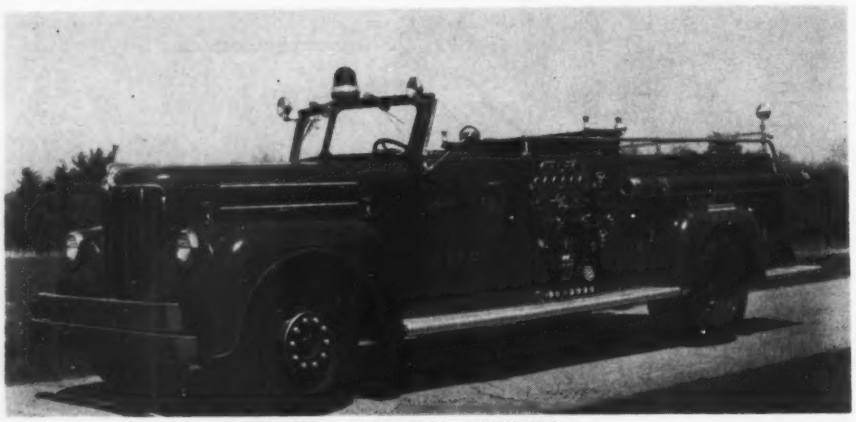

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Rockwood FOAM puts out tank truck fire in minutes!

Here is the true story from the pages of the Boston Globe and eye-witnesses

It was Thursday, March 17, 1955, 9:30 a.m. A tank truck was stopping at a traffic light on the Concord Turnpike in Lexington, Massachusetts. Suddenly, it jackknifed. There was a puff of smoke, then an explosion. The driver was hurled onto the roadway. His clothes were aflame and he collapsed. Onlookers said flames reached 200 feet in the air.

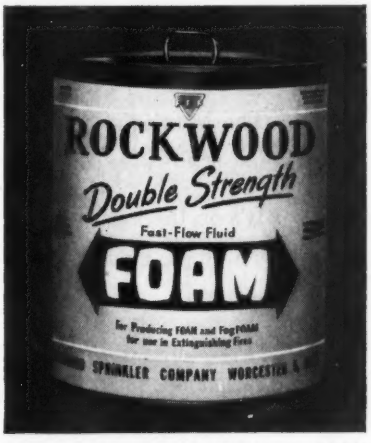
Minutes later, in answer to a telephone alarm, Engine 2 of the East Lexington Station was on the scene. Flames whipped by winds and fed by several thousand gallons of gasoline were sweeping across the road and scorching the surrounding trees. Black smoke billowed into the air.

Roy A. Cook, Chief Engineer, Lexington Fire Department, ordered Engine 2, which carries 500 gallons of water, to hold back the flames until Engine 1, carrying Rockwood FOAM, could be put into action. .

Soon Engine 1, equipped with a 1½" Rockwood FOAM eductor plus the new type SG-60 FOAM nozzle with adapter for straight stream and FogFOAM, was at the scene. *With this Rockwood equipment and FOAM, Engine 1 had the fire completely under control in fifteen minutes; completely extinguished in forty-five minutes.*

Does your city have this protection? With ever-increasing traffic, more filling stations and more tank trucks on the road, the frequency of gasoline fires is on the increase. When tragedy came to Lexington, headlines told a grim story. But a major catastrophe was prevented because the Lexington Fire Department was prepared with Rockwood products. Every Lexington Fire Department Truck is equipped with Rockwood FOAM.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood Automatic FOAM Proportioning Systems, Rockwood FogFOAM nozzles and FOAM liquid when you order a fire truck.



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The Municipal telegraph fire alarm system says one thing only — FIRE — permitting no uncertainty as to the nature of the emergency and its location.

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And best of all . . . the Telegraph Fire Alarm System is under the control and supervision of the Fire Chief whose department is devoted to the task of providing the best and most dependable fire protection for his community on a round-the-clock basis.

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FIRE ENGINEERING

VOL. 109, NO. 2 FEBRUARY, 1956

Target for '56?

We would like to address our message to those who are responsible for administering the nation's fire services in the year just beginning, particularly to those charged with financing those services, paid, part-paid and volunteer.

You, Mr. Administrator, realize full well that the new year is going to bring more, rather than fewer problems of administering your fire department. We appreciate the fact that fire department administration and operation are going to take more, rather than less, of the tax dollar if your municipality is to be adequately safeguarded from fire. And we understand that your fire department budget will receive microscopic scrutiny, as will those of all other municipal services. Finally, we realize also, that the fire department will become the target for not only financial but political sharpshooters (need we remind you that 1956 is a political year!) as the days pass and the needs of your fire force continue to grow.

In the light of these simple facts, Mr. Administrator, we would like to offer these observations:

First, the business of suppressing fire in this nation is daily becoming more complex, more complicated and more costly. Neither yesterday's methods nor yesterday's materiel can be expected to fortify the fire service against the onslaught of fire-initiated explosions, as well as fires, that are raising the public and fire service death toll day by day. Nor will yesterday's working conditions, hours of service, training, environment, and other fundamentals of firemanship suffice to meet the challenge of greater losses of life and property imposed by today's and tomorrow's accelerated demands.

Secondly, we would remind you that calls being made upon the fire forces for other than fire protection and prevention are increasing, rather than decreasing. Nor can the progressive municipality ignore all these demands if it wishes to retain the good will of its citizens, regardless of the hardships this situation imposes on the fire service.

Thirdly, it may be all right to gamble with curtailed budgets for certain municipal, non-critical services; but the cards are stacked against you when you start playing with fire. Saving a few dollars by buying less than the best of apparatus and equipment, or by shaving services through reducing personnel and eliminating in-service activities, may mean losing still more costly ground to that inexorable foe—fire.

In these critical days, Mr. Administrator, you are going to be called upon to make many decisions in which you will have to weigh on one hand the possibilities of loss of lives and property through inadequate, insufficient fire suppression facilities, and on the other, the cost of maintaining and managing your fire service at efficient and proficient strength for the critical purpose in hand.

You will be urged by the "medicine men" who have a penny panacea for every municipal problem of financing to merge firemen and police; to lop off fire prevention activities; to reduce response to fire and emergency calls. You will be urged to meet rising costs by postponing or eliminating improvements, foregoing that needed sub-station firehouse out in suburbia; putting off until next year replacement of those outmoded units of apparatus and equipment. But think before you act!

This does not mean there isn't room for greater economies in the administration and management of even the smallest fire department. There unquestionably is. But the way to savings will not be found by adopting every radical, fantastic scheme that comes along; rather it must come by application of impartial, thorough research, analysis and study, and the inauguration of policies and programs based upon logical and commonsense interpretation of the evidence amassed.

Don't make the fire department the target of your pruning knife in '56, Mr. Administrator, unless you have convincing evidence to support your claim for economies!

Fred Shepard

EDITORIAL DIRECTOR

Volunteers and firemen haul hose line up hillside to attack onrushing flames of La Tuna Canyon Fire —*L. A. F. D. Photo*

Looking north from Lockheed Air Terminal in Burbank showing flames and smoke from fire burning in Verdugo Hills

Flames on ridge back of homes in Verdugo Hills. Firemen saved all homes in this area

2.1-mile relay aids in checking California's

Most Dangerous Brush Fire in Decade

By CLIFF DEKTAR

SOUTHERN CALIFORNIA'S most destructive brush and forest fire season in many years came to a charred close early in November.

The La Tuna Canyon blaze fought under command of the Los Angeles City Fire Department marked the end of a four-month series of fires which were marked by the death of at least seven fire fighters and the destruction of millions of dollars worth of property and watershed cover.

The La Tuna Canyon fire was notable in that it probably was the worst brush fire fought by L. A. firemen since 1938 and possibly the worst in history. The fire occasioned the first full recall of off-duty personnel since the war year of 1943.

It burned 4500 acres of land.

During the fire one of the longest hose lays in the history of Western fire fighting took place—a 2.1 mile lay of 2½"-inch line.

Sunday, November 6, was a day marked by low humidity, high temperatures, and fairly strong winds—the kind of a day the fire fighters whose job it is to protect the valuable watershed mountain areas which surround Los Angeles dread.

Started by campfire

Two eight-year-old boys were playing at being campers in the back yard of their home in the 9600 block of La Tuna Canyon. The picturesque canyon is located just north of Burbank and the San Fernando Valley in the Verdugo Mountains.

The boy's campfire flamed out of control and quickly spread to the tinder-dry brush nearby. One of the boys' fathers attempted to extinguish the fire. But it was too late.

At 12:27 p.m., the Van Nuys Signal Office of the L.A.F.D. received a report by telephone of a brush fire at 9645 La Tuna Canyon Road and Engines 77 and 60 were on the way. A few minutes later Engine 77 reported the fire out of control and requested assistance.

That started the greatest movement of apparatus and equipment in the history of the Los Angeles Fire Department.

Movement of apparatus

Twenty-two calls for additional equipment were made, ranging from one engine company to six engines. Thirty different engine companies—more than one-third of the total L.A.F.D. strength—worked directly on the fire. Thirty-eight engine companies were involved in move-ups, all but 10 of which eventually moved to the fire. Fifteen tank wagons, all those in service except three left in strategic locations in other critical areas; nine booster tank wagons, all those in service except one in the far-distant Harbor Area; 10 patrol rigs; one truck company; two bulldozers, and miscellaneous apparatus from huge emergency trucks to commissary units responded to the fire.

Reserve rigs were manned and only 13 of the city's 88 fire stations were unmanned. Some companies which run normally with two triples—one used as a pump and one as a hose wagon—were split and sent as triples to separate houses.

In all, more than 120 L.A.F.D. vehicles alone were at the fire, plus much additional apparatus from the Los Angeles County Fire Department, Burbank Fire Department, and United States Forest Service units from the Angeles National Forest.

An interesting sidelight is how the L. A. County units got into action so fast. County Engine 74 and Patrol 74 were returning from a false alarm in the nearby Pacoima District when, at 12:32 p.m. they spotted the header from the La Tuna blaze. Unable to determine if the fire was in the city or county area, they radioed L. A. Headquarters they were responding and requested a full assignment to assist them. Engines 82, 182, 63, and 28 from the County rolled at once. At 12:37 a second was requested and First Asst. County Fire Chief Roland W. Percey, one of the leading brush experts and long-time fire fighter in the Verdugo Area, responded. Before the fire was over, the County F. D. had 10 engine companies, four camp crews, and three bulldozers on the lines, plus overhead personnel. Assistant Chiefs working were William Weyant, Division II, and Harvey Anderson, Division III.

The U.S.F.S. sent six tankers and crews, while the city of Burbank had four engines and several public works tankers under Chief William Taylor at the fire.

Mountain Patrolman Robert T. Dove describes the blaze as "a series of fires that burned in many different directions at the beckon of wind and terrain conditions." And he adds, "at various times there were two or three major fire heads on the rampage simultaneously."

Patrolman Dove gives this summarized "box score" on the fire which presents an excellent capsule view of the situation:

SUNDAY, NOV. 6—12:30 p.m. to 2 p.m.: Fire traveled north and east to Shadow Island Dr. area, and an attempt was made to hold along the Green Verdugo Fire Road. **1:45 to 3 p.m.:** A second and separate fire in the 9800 block of La Tuna Canyon. This was maliciously set by an 11-year-old boy who apparently wasn't satisfied with the fire to the north. **2 p.m. to 5 p.m.:** Fire jumps Green Verdugo Fire Road on a half-mile front and is stopped above the homes on Day and McGroarty Sts., west on Ora Vista.

Continued on page 122

Part of concentration of equipment on La Tuna Canyon fire is shown here massed on narrow fire road. Equipment includes public works water tanker from Burbank (left foreground), L. A. County Fire Department rigs, and U. S. Forest Service crews (last two trucks at right of picture)

Continued from page 121

6 P.M. SUNDAY TO 8 A.M. MONDAY, NOV. 7: Fire break constructed along east flank of fire from the Green Verdugo Fire Road to the St. Elizabeth grounds in La Tuna Canyon. **10:30 a.m. to 12 noon:** Fire breaks out of the Shadow Island Dr. area and is driven north and west to Sunland Blvd. **12 noon to 3 p.m.:** Fire is driven south and west to La Tuna Canyon, Tuxford St., and Sundland Blvd. **3:30 p.m. to 4:30 p.m.:** Fire front moves east to endanger many homes in the Glencrest-Bluffdale area. **5:30 p.m. to 6:30 p.m.:** Fire front moves east to cross Wildwood Fire Road and south across Chandler Fire Road to the Mother Cabrina Home Area.

10:30 P.M. MONDAY TO 9 A.M. TUESDAY, NOV. 8: Fire moves slowly to the east in the high hills between La Tuna Canyon and Glen Oaks Blvd. **10 a.m. to 2 p.m.:** Fire moves rapidly to the east up La Tuna Canyon and sweeps over the Tujunga hillside homes on Reverie Rd. and Tranquil Dr. **2 p.m. to 9 p.m.:** Fire continues east toward the Hostedder Fire Road and south toward the Verdugo Motorway. **2 p.m. to 3 p.m.:** Fire moves north toward Tujunga and is stopped behind the homes along Verdugo Crestline Dr. **3 p.m. to 11 p.m.:** Extensive backfiring along the Green Verdugo Fire Road blocks any further northward progress of the fire.

WEDNESDAY, NOV. 9 to SATURDAY, NOV. 12: Cold trail and patrol operations continue.

At first the flames spread rapidly along the north wall of La Tuna Canyon. It was vital to have plenty of rigs at the scene because of the large number of homes in the canyon and the possibility of spot fires.

Quick work managed to stop the flames on the northern and western fronts. The eastern flank of the fire offered real trouble. The fire was burning in rugged brush-covered hills and canyons. This area had no fire roads or breaks and the blaze was running so fast there was no time for tractor crews to build new breaks.

One of the L.A.F.D.'s new all-wheel-drive 1,000-gallon tank wagons almost stopped the fire on this front. Utilizing ridge lines and trails, normally suitable only for hikers or goats, the tank wagon with a 15-man crew managed to give the fire a temporary setback here. It turned out this effort was 10 minutes late and 1,000 feet of hose short.

A short time later on the Green Verdugo Fire Road a quick blast of fire swept over a group of fire fighters. Several, including Asst. Chief Leonard Eggleston, L.A.F.D. Division IV, and Auto Fireman James Catlow, 35, of Engine 39, were severely burned. Chief Eggleston's hands were badly burned, while Catlow suffered face, hand, and body burns as he tried to save Hose Wagon 39 from the onrush of the flames. Observers said that Catlow could have abandoned the rig and saved himself, but the fireman chose to stay at his post. Fireman Catlow died in Georgia St. Receiving Hospital a few days later. All told, about 100 fire fighters reported for first aid treatment during the battle.

Chief Eggleston's late model chief's sedan was almost totally destroyed and Hose Wagon 39—also burned on a brush fire in the Santa Monica Mountains several months ago—was badly damaged.

Off-duty men recalled

By early Monday morning, tractors and engine crews had done a good job and for a while it looked as if the fire might be stopped. Nightfall and rugged terrain made too much work extremely hazardous. The fire flared out of control again. Soon the fire was burning in all directions again.

It was here that weary crews were aided by the first department-wide recall of the off-duty platoon since 1943. Men from throughout the L.A.F.D., even boat crews from the Harbor, were brought to the scene. Some had never seen a brush fire before except on a training film.

Chief Engineer John H. Alderson and Deputy Chief F. H. Rothermel at times had personal command of the fire, but most of the operational work was handled by Asst. Chiefs Ronald T. Robertson, Carl N. Carter, Marvin Meador, Forest W. Moore, Pat Ferguson, and Leonard Eggleston and Mountain Patrol Commander, Batt. Chief Henry Sawyer.

Headquarters Asst. Chief Frank Winkler remained at Downtown Headquarters to handle the extensive shuffling of equipment and manpower, while Communications Commander, Batt. Chief Curtis Hart, shuttled between the Van Nuys Signal Office and the fire camp keeping the communications network at top efficiency.

All told, some 20 structures including 3 houses were destroyed. A half dozen cars also were burned, a good record considering the fact the fire was burning on so many different fronts.

During critical periods, apparatus was spotted by every home which was threatened.

One of the most interesting opera-

tions was that of a 2.1 mile hose lay and a coordinated backfiring maneuver.

Capts. Alex Pitts and George Moore of the Training Bureau directed this operation which included nine pumpers and raised water from 600 to 800 feet.

"We started out near Las Plumas and Hillhaven," said Capt. Pitts, "with Engine 6, a 1250 g.p.m. pump hooked up to a 4-in. outlet on a built-up hydrant with a 12-in main. Then we started up the hill toward the fire, paralleling it. Two 2½-in. lines were laid for approximately the first half mile. We used a Gleeson valve as we ran two lines back into the first three pumps."

Backfiring operations

Capt. Pitt pointed out that originally the water was being used directly on the fire, but as the blaze moved on, it was decided that a backfiring operation should take place along the Green Verdugo Fire Road in an attempt to stop the fire here for once and for all. This backfiring operation, conducted under command of Mountain Patrol captains, used 11 tank wagons from L.A.F.D. and 5 United States Forest Service tankers and crews. It was on a 1¼-mile front.

"Our pumps were all 1250 g.p.m.s," reported Captain Moore. "They were spaced approximately 1,000 feet apart, but the spacing varied from 900 to 1200 feet because it was necessary to put the rigs where other equipment could pass on the narrow road. Engines 6, 39, and 81 all handled two lines, while Engine 74 had two lines in and one out. Then Engines 83, 29, 73, 18, and 35 were hooked in our ambitious relay."

Captain Moore explained that the rigs never did pump at their full pressure because the need for water under heavy pressure never developed.

"After Engine 35, we ran approximately 2,000 feet of 2½" to Hose Wagon 35, a high pressure rig with two 150 g.p.m. pumps. The line went into the tank and then as many as four 1½-in. lines were taken off. One long one was used for a time directly on the fire, but mostly the tank wagons on the big backfiring operations were filled from these lines."

Nearly 150 men took part in the gigantic backfire. It took about six hours to complete the job. The brush above the fire road was carefully wet down before backfiring was started. Every inch of this fire had overlapping handlines to keep it under control. Observers were constantly on the lookout for spotting behind the backfire itself.

Many of the residents of the Sunland-Tujunga Area were frightened by this operation, thinking it was a new and uncontrolled fire.

On Tuesday, just before midnight, the main fire made its last big run. Flames estimated at 100 feet high roared up to meet the backfire. By this time there were 100 yards of cleared ground between the fire road and the main fire. Only a few sparks got into the unburned brush and in wet brush they did no harm.

Close liaison was maintained at all times with many agencies, including the Red Cross, Board of Education, and the Los Angeles Police.

Four hundred and thirty children were evacuated on Monday from the Vinedale School in La Tuna Canyon. The flames at one time came within 100 yards of the school and then were stopped.

As the fire burned south into the hills above Stough Park in the city of Burbank, a huge pall of smoke was clearly visible from the San Fernando Valley. At huge Lockheed Air Terminal and Aircraft plant, just south of the mountains, firemen patrolled against sparks starting small fires.

Department mechanics moved onto the firelines to keep the equipment in operation. There were many minor mechanical adjustments. Very little pump trouble developed and officials feel that careful and complete maintenance is undoubtedly responsible for this. Only three major mechanical breakdowns occurred where apparatus had to go off duty for extended periods. A tank wagon had clutch trouble; a triple had transmission trouble, and a tractor damaged a tread.

Radio field service units also responded and a special mobile field transmitter unit was set-up at base camp to maintain direct communications with the main L.A.F.D. signal offices. Some relays were necessary.

Virtually all equipment on the fire was radio-equipped. In addition, 28 handie-talkies were in service, some of which were brand new from a shipment just received and quickly unpacked for service.

1200 men on fire lines

It was estimated that 1200 men worked on the fire lines.

Several other fires started during the La Tuna blaze to give firemen a few more gray hairs. One in nearby Kagel Canyon was quickly controlled by L. A. County crews, and another in the Montrose District, by U. S. F. S. crews diverted there on the way to the La Tuna blaze.

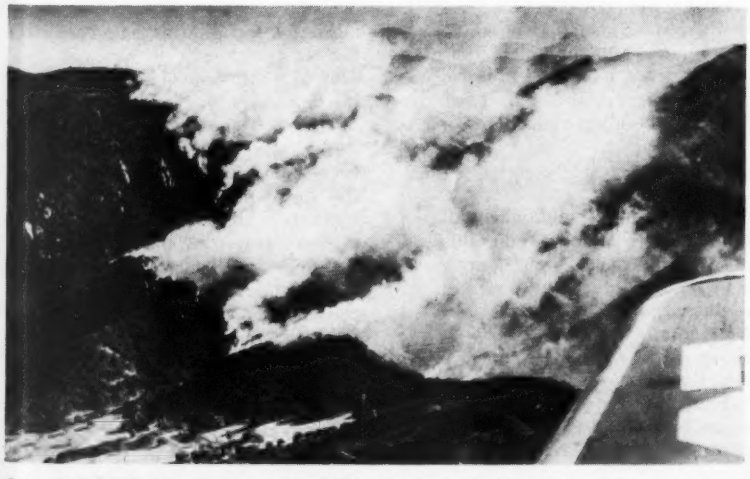
In Ventura County to the northwest, a fast-spreading fire on Monday took three days to burn over 17,000 acres of the Santa Monica Mountains near picturesque Lake Sherwood.

Ventura County Fire Department units under Chief C. D. Little were assisted by units from L. A. County, Kern County, and sailors from the Port Hueneme Navy Base. A few ranches and a Boy Scout Camp were burned and the fire at one time posed a real threat to sweep down on many ranches and homes in the Lake Sherwood and Malibu areas.

Some L. A. County equipment was shifted from the La Tuna Fire to Ventura when conditions improved.

Back to the La Tuna Fire! By Wednesday the fire had been surrounded and patrol and cold trail operations began. One brief flare-up on Thursday was quickly controlled.

Southern California's worst forest and brush fire season in many years was over, a season which firemen will long remember. □□



A roaring brush fire sweeps over the hilltops in the Santa Monica Mountains, one of two fires in the area that burned thousands of acres of timber and brushland

Russian Embassy was well involved by fire when Ottawa fire fighters were permitted to enter the grounds

Russian Embassy "Iron Curtain" Balks Ottawa Fire Fighters

"Nyet," say Soviet staff who place safety of secret Papers before extinguishment of Embassy blaze — Protocol proves real problem to perplexed fire force

FIRE, SAID BY THE RUSSIANS to have been caused by a short circuit in the elaborate wiring system serving wireless and other apparatus in the Soviet Embassy, an January 1, 1956, raged through the huge rambling, converted residence of Embassy to cause loss estimated at $250,000.

That much is certain—practically the total destruction of the structure, originally built by the late John R. Booth, lumber magnate, and valued at a quarter-million dollars. For the past 15 years it has been the headquarters of the Russian Embassy. From this building walked Igor Gouzenko in 1945, with secret papers that disclosed the Soviet spy conspiracy.

It is certain also, that the Embassy staff spent priceless time at the outset of the fire in the futile attempt to extinguish it, and then wasted more valuable time obstructing the operations of the Ottawa Fire Department. The time the Russians spent fighting the fire alone, according to Ottawa fire officials, may have doomed the building. And the officials can verify the fact that although it was not until 4:55 p.m. that neighbors telephoned the first alarm, the fire was in evidence as early as 4:15 p.m.

The telephone alarm, which conveyed some details about the fire to the department was followed by a signal box alarm. Based on the information received by the telephone call, first and second alarm fire equipment was immediately dispatched to the scene. This force consisted of two pumpers, two hose wagons, one city service ladder truck, one aerial ladder truck, one emergency car, a deputy chief and one district chief. A full emergency alarm was sounded at 6:37 p.m., bringing 100 men and equipment.

It was a brilliantly clear day; the

Unquestionably the destruction of the Soviet Embassy in Ottawa, Ont., on January 1, and the initially fruitless efforts of the Ottawa fire fighters to get to the seat of the fire and extinguish it, will provide food for discussion for years to come.

The editors of FIRE ENGINEERING are fully aware of the complexity of problems posed by this incident—it was more than a mere fire—and if and when all the true facts come to light, this journal will make them known to its readers. Meanwhile, we are privileged to quote from a report to the editors by Chief J. D. Foote of the Ottawa Fire Department who, through no fault of his own, had to play the stellar role of a drama that would put the craziest nightmares of playwrights to shame.

temperature at the time was below zero; the ground and roofs of buildings were well covered with snow and there was a light breeze blowing.

With the arrival of the first fire forces it was apparent that the north portion of the upper floor and cockloft of the old building were heavily involved in fire, which was visible from the street.

It should be mentioned that the building at 285 Charlotte street, was set back some 45 feet from the road and the entire property was encircled by an eight foot iron fence with only one driveway available for fire department use. The other driveway was occupied by automobiles of the Russian Ambassador and staff. This drawback precluded the use of additional aerial ladders.

The old mansion is set on a cliff overlooking the Rideau River in Ottawa's Sandy Hill district. The cliff is to the rear (east) and south sides of the structure.

Only exterior attack possible

Notwithstanding these handicaps, Ottawa firemen were prepared to carry the attack on the fire from within the building as well as from the exterior. But it was not until the Soviet staff had removed the papers over which they had made so much fuss in the efforts to salvage them, that firemen were permitted to attempt to reach the forbidden north portion of the building. To attempt close-up attack on this involved area with the entire roof section ablaze would have been inviting disaster, and Chief Foote withheld his men from such operation and concentrated the heaviest efforts on exterior attack, at the same time covering exposures. An effective stream was shot into the roof area from the aerial ladder, and other hose streams were directed on the fire from ladders and the roofs of extensions. Here the men were subjected to exposure from freezing spray. Fortunately however, none was injured seriously in these operations.

According to Chief Foote, there was ample water pressure and fire equipment, and manpower was sufficient to handle the blaze. Only one difficulty occurred, and that was when a pumper broke down, but this unit was replaced within a few minutes.

All told, some 14 pieces of equipment were used in fighting the fire. Some hose stretches were three to four blocks long and for this reason it was necessary to block off traffic on Laurier and Charlotte.

In the fire's early stages, when bewildered firemen were forced to stand in the street directing streams into the burning area from a distance, the embassy staff was busy removing documents. Even when told their lives were in danger, the Russians refused to move out and stay out.

At about that point Chief Foote, who was fully aware of the legal perplexities facing him and his men, telephoned Mayor Charlotte Whitton to tell her of the oddest dilemma of his career. He told her what was happening and reported the fire was getting out of control.

Miss Whitton got in touch with members of the city's legal department to ask whether the doctrine of extraterritoriality applied to burning embassies. These advisers suggested consulting the External Affairs Department. External Affairs officials called Welfare Minister Martin, serving as acting Minister of External Affairs in the absence of External Affairs Minister Pearson, who was out of the city.

In the meantime, the Russian ambassador had finally given firemen permission to enter the grounds and, although Mr. Martin hurried to the scene, his intervention was unnecessary. However, it is said that even as late as three hours after the start of the fire, some Russian officials tangled with fire fighters over the fire control operations.

Mayor declares an emergency

While all this was happening, another voice was heard. It came from Senator Norman M. Paterson, who called the Mayor to tell her that his property located immediately behind the embassy on another street was being threatened by the fire. On a basis of this information the Mayor exercised the extraordinary power given to mayors by law in the Dominion to declare an emergency. She believed this was the only way in which the extraterritoriality doctrine could be overridden and the firemen admitted to the embassy. However, by this time, the Russians had consented to entry.

Following the almost total destruction of the old building, a group of ambassadors of other countries were discussing the status quo and details of protocol, etc. Laughing at the Russian attitude, they told Mayor Whitton they never would invoke extraterritoriality if their embassies were afire; rather they would welcome a visit from the fire prevention squad to inspect their electric wiring.

There the matter stands for the moment. □□

Los Angeles Area Hit by Two Major Church Fires

TWO CHURCH FIRES, only eight days apart, caused total damages estimated at more than $275,000 in the Los Angeles area. Both occurred early in the morning and were deeply-rooted before the alarms were sounded.

The most severe of the two fires was the one which leveled the First Christian Church of San Dimas on October 21. The two-story wood and stucco building, a 43-year-old landmark, was totally involved when first units of the Los Angeles County Fire Department arrived from a station just two blocks away.

A passing motorist turned in the alarm at 2:30 a.m. and five county fire companies, commanded by Assistant Chief Roland W. Percy, battled the flames until after dawn.

The Rev. William J. Diehm, pastor of the church, estimated damage at $225,000 and said a huge organ, valued at $25,000 alone, was also destroyed.

The alarm was almost simultaneously given by Bernard B. Slator who said he was aroused by the restlessness of his pet South American ocelot which he keeps on a screened-in

Church fires require fast ventilation operations which sometimes are difficult on sloping roofs. Los Angeles firemen here open up roof of Messiah Baptist Church during two-alarm blaze shortly after dawn—*LAFD Photo by Robert Secor*

porch. The cat was making strange noises, said Slator, and when he went out to quiet him found the animal sitting on the floor and staring at the blazing church across the street.

Several days later, two San Dimas juveniles, both runaways, told arson investigators they accidentally set fire to the church. They said they ran away from home a day before the fire and entered the church late the following night. The boys said they lit an open gas heater, pulled a couch close to it and fell asleep. They awoke to find the couch burning and after making an unsuccessful attempt to put out the fire they fled from the church. The boys, 12 and 14, said they entered the church about 9 p.m. following a wedding and hid inside the church until everyone left.

Earlier, a two-alarm fire heavily damaged the Messiah Baptist Church, at 4500 West Adams Boulevard, Los Angeles. The fire was discovered shortly after 6:30 a.m., October 13. Pastor of the church, the Rev. Whalen S. Jones, estimated damage at $50,000.

First-arriving firemen found the building heavily charged with smoke and, while lines were being laid, entry was forced by truckmen who laddered the building, broke skylights and chopped several holes in the roof. The blaze is believed to have started in a room housing a boiler and hot water heater. This room was directly in back of the altar on the first floor level.

Division Chief Pat Ferguson, who responded on the call for two extra engines and a truck made by Battalion Chief Steve Lewis, said the auditorium and chapel section of the church was charred and the organ damaged.

The deep-seated, smoldering fire, was knocked down by firemen who forced their way in through the front door. Firemen had some difficulty in reaching the flames as they ate up through the walls and passed through the attic of the building. ***Paul Ditzel***

Noted Resort Hotel Gutted by Fire

Grossman Hotel fire as it appeared shortly after arrival of first fire company

FIRE DESTROYED the well-known Grossman Hotel in Lakewood, N. J., on October 14. Sidney Grossman, owner of the 200-room hotel, said he could not estimate the immediate loss, but said that it would cost "at least a million and a half" to replace the plush hostelry. The Grossman was the second largest hotel in Lakewood.

The fire apparently started in a fifth floor room. Mr. Grossman said painters and electricians had been working in the building, but none reported seeing the start of the fire. The workmen were led to safety by the first firemen and police on the scene.

Fanned by a 35-50 mile an hour wind, the flames soon spread through

the upper floors and, within an hour, the hotel was an inferno. Two large towers atop the hotel crashed soon after the start of the blaze.

Lakewood firemen used their two aerial trucks in an attempt to halt the fire in the top floors, and soon called in pumpers and ladder trucks from Freehold and Toms River. Both communities, though, are several miles from the resort, and it was some time before help arrived.

Mayor Lawrence D'Zio, after the fire, said it appeared as though the firemen were "battling a dragon with a razor blade." He referred to reports of low water pressure in the mains, which limited firemen's efforts to get pressure streams to the top floors and through ladder pipes on the aerials. Toms River firemen relayed water a mile distance from Lake Carasaljo.

Rains have no effect on fire

The blaze, which occurred as an unexpected storm was passing the area, saw torrential rains fall, but make little impression on the fire. The winds carried flames near the Brunswick Hotel, another large building to the rear of the Grossman Hotel on Ninth Street. But firemen, making a determined stand atop the roof of the hotel's swimming pool, managed to save the Brunswick.

The Grossman, built 35 years ago, was one of the more famous of the Lakewood hotels.

Assistant Fire Chief Melvin Gurley, who was in charge at the start of the blaze until the arrival of Chief Lester Anderson, suffered a severe cut on the right hand. He was treated by the Lakewood First Aid Squad and remained on the scene.

The blaze was discovered at 3:05 p.m., and firemen were on the scene all night and most of the next day. Sunday, two days later, firemen were recalled when fire broke out in the debris.

Lakewood operated two aerial trucks at the blaze, though the department actually has only one on active service. When a Mack 75-foot aerial was delivered recently, the department put its former Ahrens-Fox ladder in a garage, pending sale.

It was first on the scene at the Grossman fire, as the garage in which it was stored was only two blocks away and volunteers in the neighborhood, seeing the extent of the blaze, drove it to the scene at once.

At least twelve firemen were overcome by smoke, but none was forced to leave the scene. All were treated by first aid men and returned to the fire.

Frank Wilgus

Wayside Inn fire shortly after the arrival of the fire department. The main portion of the inn was badly gutted, but walls and roof were left intact—*Photo by John McGovern*

Wayside Inn Damaged by Fire

THE 269-YEAR-OLD Wayside Inn, at Sudbury, Mass., was almost completely destroyed by fire in the early morning of December 22. Cost of replacement of the building is estimated at more than $200,000. However it is impossible to place a monetary value on the loss of antiques and historical contents which can never be replaced. The Inn itself was the subject of Longfellow's "Tales of a Wayside Inn" and such notable guests as George Washington and General Lafayette had been entertained there.

Bought by Henry Ford in 1923

In 1923 the late Henry Ford purchased the Inn and more than 6000 acres of surrounding property with numerous buildings, such as the old grist mill, blacksmith shop, country store, schools and church, all of which were carefully restored to their original state. The Inn was painstakingly restored and several large wings were added to the rear. Agents of Mr. Ford scoured the New England states collecting early American furnishings with which the Inn was refurnished. During this time, Mr. and Mrs. Ford spent much time at "Wayside" and were well known to many of the townspeople. Following the death of Mr. Ford, much of the land was disposed of and the main group of buildings were taken over by the Ford Foundation.

The town of Sudbury maintains a highly efficient fire department for a town of it's size. Headed by a full-time chief, one full-time man and twenty-four volunteers, the department maintains five pieces of apparatus, all radio equipped. One of the engines was a gift of the Ford Foundation.

The alarm of fire was received at 2:20 A.M. Temperature at the time was six degrees below zero with a slight NW breeze. The fire scene was three and one-quarter miles from the fire station and one and one-quarter miles beyond the last hydrant on the water system.

Upon the arrival of the department, one of the wings was completely involved, and flames were leaping out both first and second story windows and from under the eaves. Chief St. Germain immediately radioed second and third alarms back to headquarters. These are mutual aid calls and brought two engine companies each from Marlboro, Wayland and Framingham and a single engine company from Concord. The only source of water was a small pond and brook about 500 feet from the rear of the inn. It was necessary to chop through fourteen inches of ice in order to take suction. Some difficulty was also encountered with fouling of suction strainers on the muddy bottom, as the water was shallow. Despite these handicaps, twelve two and one-half-inch lines were operated. A total of 6000 feet of two and one-half and 2000 feet of one and one-half-inch hose was used. Due to the freezing of gauges, it was difficult to control pressures which, with the glare of ice on the fire ground, caused several mishaps with lines breaking away. In one such incident a Wayland fire fighter suffered a leg fracture. A number of other fire fighters suffered frostbite.

Early in the progress of the fire, Chief St. Germain, realizing that fuel supply for a dozen pumpers would be a problem, appealed to a local oil company, which immediately sent a fully loaded tank truck of gasoline to the fire scene and placed it at the chief's disposal. The

Continued on page 156

OVERHAUL AND SALVAGE . . . IN THEORY AND PRACTICE

By ROI B. WOOLLEY

Fire schools and colleges now include salvage in their training curricula. Here students are shown how to construct a chute, using covers and a 26-foot ladder

PART X

Training for Salvage Operations

AT THE CONCLUSION of the preceding chapter, the author pointed to the fact that the specialist in salvage and overhaul must be versed in many trades and pursuits. In brief, he must know not only the principles and practices of modern salvage, recovery and reclamation, but he must have broad knowledge of the science of fire control and extinguishment.

It is not to be expected that fire fighter-salvagemen, particularly the members of small fire departments both paid, part-paid and volunteer, will possess the more extensive and detailed technical knowledge of salvage had by the specialists, such as comprise our modern Underwriter and municipal salvage corps and squads.

In the first place, the salvage specialist has greater opportunity to study and learn the principles and practices of basic and advanced salvage. He operates at more fires; he encounters and has to cope with more problems in salvage and overhaul than the average fire fighter-salvageman. Furthermore, he normally has better facilities for training in the practical as well as theoretical phases of salvage, right in his own salvage headquarters. Most of the Underwriters corps and patrols operate a school of some sort where their members are drilled in both the fundamentals of salvage, in all of its ramifications, and in the latest problems of the science, and how to best solve these problems.

Practically all salvage patrols, corps and squads, whether maintained by the Underwriters or by the fire department, hold practice drills of some sort to help members become adept in the handling and care of covers and other salvage facilities.

Included in Curriculum of Schools

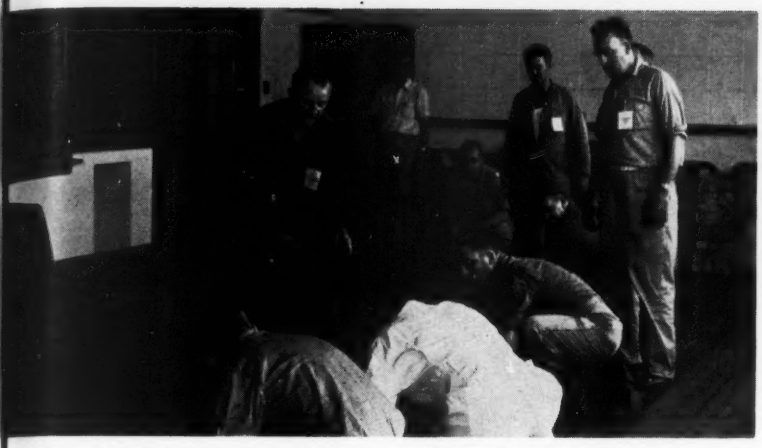
It is gratifying to note that education and training in salvage now is included, along with fire control and extinguishment, in the curriculums of most of the nation's fire colleges and schools. Very frequently, the instructors in this field are drawn from the professional salvage organizations. In some instances, members of fire departments who are to perform salvage operations are given the privilege of attending salvage schools maintained by the Underwriters. Hundreds of firemen, particularly among the volunteer departments, thereby have been taught at least the fundamentals of good salvage.

Actually, with perhaps but a single exception, the fire fighter who is to be trained in at least the basic principles of salvage, can gather that knowledge right in his own fire department drill school, if the department is fortunate enough to have one, or if not, he can gain it right in his own fire station.

The exception is instruction in sprinkler operations and in sprinkler systems. To master this effectively, it is necessary to study sprinkler systems and their operation at first hand. The use of films, posters and printed material are of great help in teaching sprinkler operation, but nothing quite takes the place of the personal contact with the installed system, with its valves, gauges, pipe, etc.

If such installation is not available for the local fire department training school, the best substitutes are visits to buildings such as factories, large office structures and places of public assembly where representative sprinkler systems may be inspected, and their operation studied at first hand. It is usually a simple matter to make such arrangements.

The practical training in the spreading and throwing of salvage covers can be carried out in the fire station or any room or space that can be provided



A class of volunteer firemen actually spread, fold and bag covers in a classroom at the Pennsylvania Fire School, Lewistown, Pa.—*Photo courtesy Hubert Walker*

for the purpose. Chief Frank McAuliffe in his booklet, "Fire Department Salvage Operations," previously referred to, has this to say on the subject:

"While it is impossible to arrange a schoolroom to conform with all the cover conditions likely to be found at fires, it is possible to arrange a room so that the principles of cover work can be practiced. For practical training purposes, packing cases can be made with one end open and in graduated sizes so that they fit into each other for storage purposes. These boxes can then be arranged into shapes and sizes suitable for cover practice. Furniture of various kinds can also be uitilized, and with such a combination, a floor arrangement can be made to provide competitive drills for time and efficiency."

Many fire departments have exhibited considerable ingenuity in developing salvage training programs. As Chief McAuliffe has said, much can be accomplished by improvisation, making the broadest possible use of such material as can be secured. Covers and other salvage facilities are not hard to come by; forcible entry tools, ladders, and much other essential salvage equipment are already possessed by the average fire department. All that is necessary is to have a capable instructor; and, today, with so many fire schools and colleges teaching the principles of instructing, there is no valid reason why any department that truly desires it cannot make a good instructor out of one of its own officers who has learned not only the fundamentals of good salvage, but the most effective way of teaching his fellow firemen in such operations.

Most municipal fire departments that lay claim to progressiveness in any degree, have one or more department instructors who teach firemanship. Their curriculum should include salvage and overhaul, if it already does not do so. And the classes should include not merely those who have been detailed, or who have volunteered for salvage work, but every fire fighter.

There are several reasons for adding training in salvage to the already extensive curriculum which the modern fireman must master. The chief one is that the knowledge of the importance of salvage cannot but help make firemen more efficient in fire extinguishing methods.

A former chief of the Pittsburgh Fire Department has told how he became interested in salvage. He said, speaking before the conference of the International Association of Fire Chiefs: "Through the courtesy of Frank McAuliffe (Chief McAuliffe, Superintendent of the Chicago Fire Insurance Patrols) I had a squad trained. I knew I couldn't put it over the way I wanted it, but I had to devise ways and means to gain my ends, which any chief has been doing for ages, if he is worth his salt. I had my training school instructors grounded in that work and today in Pittsburgh, whether he be a rookie entering the service on his three months' probation, or not, he receives that training and grounding in salvage activities, the same as he does in the rest of his duties. In addition to that, our individual companies attending the training school receive that same training."

The chief pointed to the records of the National Board of Fire Underwriters for the proof that salvage has "greatly helped reduce losses" in his city.

The chief made the additional point that good salvage is not confined only to the throwing of covers. As this author has already stated, salvage and fire fighting go hand in hand, or they should. For example, when fire fighters open up doors, windows and/or roofs for ventilation, a thorough knowledge of the elements of salvage should help them to do a better, cleaner, less destructive job of it. Conversely, when salvagemen know more about the practices of good firemanship, they should be able to apply that knowledge toward reducing fire's destructiveness.

Good Teamwork Important

We have said also that good salvage depends upon good teamwork. The same may be said of good fire fighting. Both fire fighter and salvageman have the same objective (after rescue, of course): *The greatest possible reduction in property fire losses, with the least wastage of time, effort and material used in the extinguishment.*

After his men had been thoroughly grounded in the elements of good salvage work, the Pittsburgh chief, like many others, found that the whole tone of the department was made better.

Speaking on the same subject, another chief said, "I hope nobody thinks that in my department, or any other department I come in contact with, I just advise them to buy some salvage covers and put them on the wagon and then forget them. Those men are trained in salvage work from A to Z, just as much as in erecting ladders and rescuing persons from buildings. . . . I just returned from a school in Florida that put on a salvage course," he continued. "Those fellows down there are not only lectured to (about salvage) but are made to handle the covers, to cover down furniture and shelving and other equipment in the building they were using (This was before the present excellent fire college was developed in that state)."

"On the third day," the chief went on, "after the men had gotten some proficiency, we went abroad into the city and took in a dozen different classes of mercantile establishments and actually covered them down with covers. Here were green rookies who had never seen a salvage corps before. Some of them only a few hours before that experience would have hesitated to cast a cover over a show case littered on top with bric-a-brac. But they did it, and they never even broke a water glass on the entire round. They covered delicate fabrics in ready-to-wear shops. They learned how to get a dozen racks of material

put together and to use one cover instead of covering one rack with a single cover; they can now cover 1500 ladies' ready-to-wear dresses with one salvage cover. That is one way we were able to reduce our losses to the minimum."

What this chief was emphasizing was the fact that training in salvage operations can be undertaken either in the fire station, or, if that is not possible, out in the field, using local available occupancies such as business, trade, industrial and residential buildings. This practical experience can be supplemented with out-of-station attendance at fire schools and in-service lectures.

Chief Frank McAuliffe makes the further suggestion that where salvage drills are conducted, using improvised materials such as the box containers previously mentioned, the spirit of contest might be introduced.

In such drills, he explains, the floors should be "bagged" and all furnishings covered in a thorough, workmanlike manner. An officer assigned to such drills should examine each man's work on a basis of speed, efficient movements, and cooperation with the team. When a man fails in performing his work properly, he should be given a demerit. The number of covers used by a team in performing a given operation is very important and should be taken into account when the officer marks the averages of the competitors. Drilling and training in this way, Chief McAuliffe believes, will help reduce the number of covers required for identical purposes and add materially to a company's efficiency and speed.

Drill Schools and Schools of Instruction

It is said that the first drill school for the fire insurance patrol was organized by Frank C. McAuliffe, Chief, Chicago Fire Insurance Patrol. This was prior to 1927, at which time the School of Instruction for the Officers of the Chicago Fire Insurance Patrol came into being. Other insurance patrol organizations throughout the country maintained some sort of training programs and drilled their men in salvage operations, but it remained for Chicago to set the stage with a fully equipped school.

The New York Fire Patrol School of Salvage Operations came into being in 1935 and, like its Chicago counterpart, it attracted much wide and favorable attention. It was conceived in the fertile mind of one of the nation's foremost exponents of scientific salvage, Captain William S. Cashman, of Fire Patrol No. 6 in the Bronx. He had advocated the step for years, but it remained for the then superintendent, Thomas C. Shannon, to put the innovation into effect. The first school was held on the top floor of the headquarters of Patrol 6.

The New York school had every conceivable prop, tool, appliance, apparatus, implement and physical condition that a salvageman was likely to encounter. The only things absent were heat, smoke and flames.

When the Chicago Fire Patrol erected its then new quarters at the corner of Hill and Orleans streets, the first drill school for the teaching of salvage was included. The school rooms contained a complete wet and dry sprinkler system, fully supervised, and having all the alarm transmission instruments. There was also an automatic fire alarm system and city fire alarm system available for demonstration to the students.

The New York school likewise had the standard street fire alarm telegraph box; engine house bell with Morse key; ADT supervisory system, typical of the installations in commercial buildings; an Aero-automatic alarm system; a watertight room for sprinkler demonstration; a standard fire hydrant and a complete layout of tools, supplies, appliances, etc., used in salvage work. In addition, there were hose lines and couplings, fittings of all sorts, a Conran check valve and pressure reducing valve, a test plant to demonstrate the actual functioning of a fusing sprinkler head, as well as an automatic alarm transmission and standpipe supply.

In many ways the Chicago and New York schools were alike. They both became the Mecca for firemen and salvagemen from other parts of the country; in fact, they logged the names of persons prominent in fire protection and salvaging from all over the civilized world.

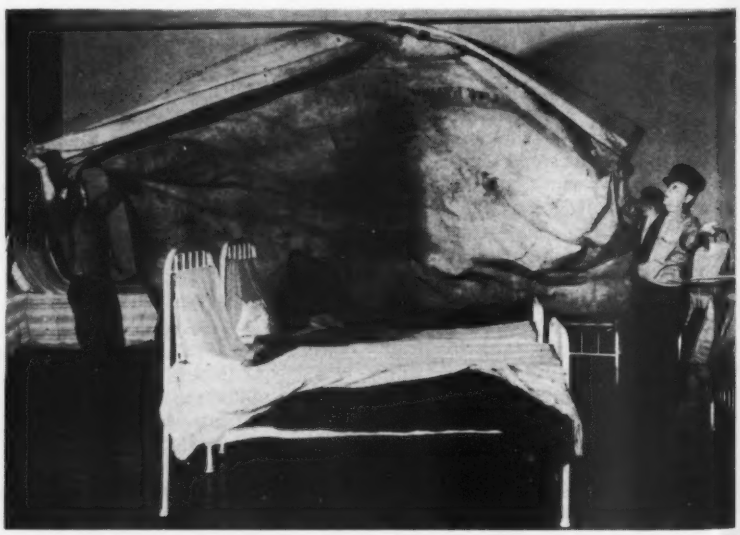
Each of these celebrated salvage organizations put its personnel, both inexperienced and seasoned members, through a series of drills and evolutions. In addition, the School for Instruction for the Officers of the Chicago Patrol was attended by not only officers of the Patrol, but by many officers of the Chicago Fire Department. It attracted numerous insurance men and others interested in fire prevention, control, extinguishment and salvage.

In both the Chicago and New York schools, members of the salvage corps were required to periodically attend the school in a body. In New York, six patrolmen attended daily for one week, coming from three of the then nine fire patrol stations in the city. The patrolmen did not suffer any loss of their own time.

Chicago Patrol Held "Time Drill"

In Chicago, attendance twice a year at the school was mandatory. The companies were marked and graded according to their efficiency as displayed at the school. To increase interest of the members in their work, Chief McAuliffe developed a "time drill." This drill was conducted as follows:

The school room was arranged to simulate and present conditions about as they would be found at an actual fire. This was accomplished by the



In-service salvage training requires no special props. Here members of the Underwriter's Fire Patrol, Kansas City, Mo., rehearse throwing a cover over household effects—the same being beds in their own dormitory —*Photo courtesy Kansas City Underwriter's Fire Patrol*

Most Underwriters' Salvage Corps require members to have more than a passing knowledge of first aid and resuscitation because corpsmen frequently operate in smoke and gas-filled atmospheres. Since 1930, the Kansas City Patrol has conducted classes in first aid, as shown above — *Photo courtesy Kansas City Underwriter's Fire Patrol*

use of specially built boxes, knockdown tables and shelves, together with a set of living room furniture. To cover the entire layout required, with the necessary catch-alls, about twenty covers.

The company members started from the apparatus room and forced entrance through a special door built for the purpose. The sprinkler system was in operation in the test room, and a part of their duty was to shut this sprinkler off with tongs.

A fire alarm box for sending, together with a receiving instrument, was conveniently located and patrolmen were required to send in the code signal for help. The company was required, in addition, to have its lights burning (at that time carbic lights were in use). Members also had to construct a chute as part of their regular drill.

The best time established for this particular procedure was reported by Chief McAuliffe (FIRE ENGINEERING, February 23, 1927, "The Latest—A Fire Patrol School") to be seven minutes and forty-five seconds for one officer and six men. Time was deducted for errors after the work was completed.

Subjects Treated at the Officers School

The Chicago Fire Patrol's Officers School of Instruction was inaugurated January 4, 1927. Preceding each session there was held an officers' conference, after which patrolmen who were seeking promotion were admitted. Each class was held promptly at 8:30 a.m., and tardiness of students was not tolerated. All officers off and on duty were expected to be present unless excused by the chief.

The subjects which were treated at the various sessions of the school included:

1. The object of the school
2. Building inspection in line with, and to be of benefit to, the Chicago Board Inspection Department
3. Sprinkler equipment
4. Automatic fire alarms and supervisory service
5. Private fire protection equipment (exclusive of sprinklers)
6. Modern fire fighting and description of fire fighting equipment
7. Fundamentals of fire insurance and rating
8. Arson and how the patrolmen can assist the National Board in the detection and prosecution thereof
9. City of Chicago fire prevention ordinances
10. Chemistry of fire; explosions and their causes; dangerous chemicals and acids; spontaneous ignition; combustion
11. First aid and artificial respiration; demonstration of smoke masks and inhalators
12. Adjustment of losses and how the Patrol can cooperate to reduce claims
13. Value of discipline and training
14. Reconditioning salvage
15. Review of Patrol inspection

Curriculum of Salvage Company Training Schools

The field for instruction in the principles and practices of modern salvage is a vast one. As we have previously pointed out, salvage is extricably intermingled with fire extinguishment and overhaul. The well trained salvage company or squad should of necessity be familiar with not merely the problems of preserving property against all possible loss by fire, smoke and water, but also with the approved methods of fire attack and suppression in order to hold to a minimum the property damage occasioned by the attack procedure.

The schools of instruction operated by the Underwriters, therefore, have included not only the elements of salvage, but many of the fundamentals of fire protection, extinguishment and prevention. Where salvage work is to be performed by normal fire fighting units, such as ladder or rescue companies, the curriculum which follows may have to be revised to delete those subjects on which the company members in question will, or may have already received instruction from other sources.

The following list of drills and instructions is a composite of those recommended by the Chicago and New York Fire Insurance Patrols. It is in line also, with the overall training given members of most of the other remaining Underwriters' corps and patrols in the nation.

It will be noted in the following that the author has grouped, for convenience, those drills, evolutions and instructions according to (a) General subjects relating to salvage, i.e., principles of salvage including dewatering; (b) Covering—application of covers; (c) Subjects relating to firemanship, fire attack, etc., but which bear relationship to salvage operations; (d) Advanced instruction in salvage; standards for salvage operations, i.e., relationship between salvage and merchandise; characteristics of (1) removability; (2) combustibility and (3) damageability.

The salvage student can readily separate those subjects in the foregoing which essentially call for drilling, or training-by-doing, and those which can be treated on the lecture platform.

General Subjects

1. Principles of fire service salvage; Relations to fire attack and extinguishment and fire department op-

erations; its effect on insured and uninsured losses. Effect of efficient salvage on public good will and fire department standing, and morale; historical background, etc.

2. Functions of the salvage corps, patrol, company or squad, (a) as Underwriters' agency; (b) as separate fire department unit; (c) as a segment of other fire department units.

3. Salvage terminology; glossary of terms (can be studied in connection with operations, use of equipment, etc.)

4. Relations of salvage corps, or unit with (a) other fire department units, (b) with other municipal, state and Federal agencies.

5. Laws and ordinances relating to salvage, including liability—property and personal.

6. Pre-fire elements affecting salvage: Storage and stockpiling; fire loads; architectural and building construction factors (shaftways, drains, scuppers, etc.); exits, aisles and passageways; hazardous processes and storages; water supplies for private protection; fire doors and windows; limitations of fire spread; fire protection facilities, etc.

7. Sprinkler instruction: Standard sprinkler practices; sprinkler equipment including standpipes and connections; special extinguishing equipment; sprinkler alarm systems, etc.

Drill in using sprinkler tongs and other shutoffs; replacing sprinkler heads, shutting off and draining; special instructions in supervision of systems; source of water supplies, control valves and alarms; care and maintenance of wet and dry systems, etc.

8. Drill on fire alarms: (a) municipal street box; special building box and interior alarms (if salvage corps or other units use special code, telegraphic or radio, instructions should be given in all details); (b) automatic fire alarm systems, including supervisory, how they operate, etc.

9. Effect of weather on salvage operations: Care of plumbing and boilers in freezing weather when it is impossible to heat building partially destroyed by fire; care of fruits, vegetables and other perishables susceptible to freezing. Effect of weather on salvage covers—different types.

10. Rules and regulations of fire department relating to salvage and/or salvage corps.

11. Dewatering: Method of draining and otherwise removing water from basements and other areas where it has collected. Use of eductors, portable pumps, scoops, etc.

12. Question of charging for coverage, watch service, etc.

Salvage Covers—Covering Operations

1. Demonstrate types and kinds of covers carried; inside and outside, right or wrong sides; details of grommets, seams, edges, fold marks, sizes, etc.

2. Care of covers in quarters; patching and mending rubber and canvas covers; instructions in cleaning—washing and drying; general care to insure long life, prevent deterioration.

3. Various types of cover folds and throws; how to use covers to best advantage; explain difference in width and length.

4. Proper method of making catch-alls; when and where is such a procedure advisable or necessary; bagging on floors, door openings and elevators; use of covers as runners, bagging edges for troughs.

5. Covering goods on counters, tables, etc., showing method of rolling edges to prevent water running under covers when more than one cover is necessary to complete the work; importance of clean covers; how to cover delicate fabrics and materials that are easily soiled; preventing water damage to bottom of merchandise—dresses and racks of other materials close to floor—when sweeping water, the foregoing to include facing, stripping and locking covers and rolling ends.

6. Covering shelves; pulling stock from walls to prevent damage caused by water coursing down walls; care in preventing injuries to men performing shelf work (danger of falling and/or collapsing shelves, etc.); methods of catching water following vertical pipe openings, ceiling fixtures, etc.

7. Covering bulk stocks in piles; proper laps to make arrangement of pitch; arrangement of stock to be covered, utilizing the least possible number of covers to secure maximum coverage.

8. Explain and demonstrate use of "cover poles," plaster hooks, "S" hooks and improvised fasteners in connection with care, operations.

9. Covering machinery: Belt-driven, motors and elevator machinery located in basements that may come in contact with water swept down shafts, etc.

10. Instruction and drill in arranging, bunching and covering household furniture; handling of rugs, pictures and drapes, curtains, clothing in closets and other hangings.

11. Building of chutes; when, where and how to use standard and improvised equipment.

12. Covering roofs and skylights; flat roofs, gable and other roofs; instructions in raising roofing material; manner of fastening covers and properly pitching for drainage.

13. Care of covers at fires: (a) Throwing covers from windows, down elevator shafts, etc.; (b) spreading catch-alls over glass or other harmful debris; walking on covers unnecessarily; (c) the use of grommets when nailing stock covers; (d) the use of wood scoops or mechanical dewatering devices in bailing catch-alls to prevent rips and tears to covers; (e) spreading covers under dropping fire or in places where they may be burned; (f) using covers in places exposed to special hazards.

Firemanship Operations Related to Salvage

1. Forcible entry: Opening doors, all types; screens; skylights; shutters, efficiently with least possible structural damage. Forcing different type locks and fastening; use of power as well as manual tools and equipment.

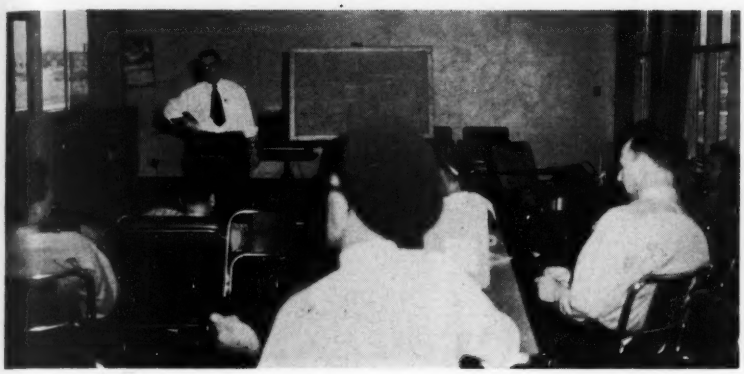
2. Cutting holes in floors: Best methods to incur least damage to property; when and where advisable to make openings; use of manual and power cutting equipment.

3. Use and care of salvage auxiliary aids such as floodlights, portable generators and power pumps; power saws, drills, cutters, and other equipment; smoke ejectors and injectors; circulators and fans; deodorizing and drying equipment, etc.

4. Instruction and drills on types and kinds of elevators, tractors, lift trucks, etc., and how to operate them.

5. Instruction and drill in the vari-

Continued on page 156



Five thousand dwellings were inspected by the fire department of GE's atomic city. Each inspector attended a training course which included in its curriculum, detection of fire hazards and methods of correction. Blackboard diagrams and demonstrations were used to aid in the training

Inspection Program for an Atomic City

RICHLAND, WASH., is a city of 27,500 population. It has the normal service components that make up a normal city including the fire department of which Pat J. Quane is Chief. However, while other cities are administered by a city government elected by the people, in Richland the Community Section of the General Electric Company is responsible for the operation of the municipality. Richland, be it known, is the site of one of the most important atomic energy developments in the nation, of which the General Electric Company is a prime contractor.

One might truthfully deduct that such an important community would be doubly fire prevention conscious. It is, but the Richland Fire Department takes nothing for granted.

With this in mind, the department set out on the most enterprising inspection program ever conducted by the city. This report deals with some of the elements of this drive.

At the outset, realizing the success of such an effort would depend largely upon wide publicity and well trained inspectors, the department carefully mapped out the entire program to include these details prior to launching the actual inspections.

The preliminary publicity included a series of photos taken of posed fire hazards in various residences throughout the city. These pictures, appropriately captioned, were released daily in local newspapers, together with news stories describing the campaign.

These messages informed residents of the principal hazards the inspectors would check for, and encouraged citizens to eliminate such hazards before the inspections began. In addition, the department obtained excellent coverage in a local industrial plant newspaper having a very wide circulation among citizens.

This kind of publicity resulted in reducing the fear some people had about fire inspections of their homes, as can be attested by the fact that only three refusals were encountered during the first 5,000 inspections.

As the campaign progressed, the publicity was maintained with frequent newspaper releases and radio interviews. The fire department considers this form of publicity the nucleus of any successful fire prevention program and its most important weapon for creating a safety-minded citizenry.

Realizing that the success of any such drive must depend upon the know-how and ability of the officers and men who would be responsible for making the actual contacts, the department inaugurated an intensive training program for its inspection personnel. In effect, they were to be the fire prevention salesmen, and it was imperative that they be indoctrinated into all the details and know-how of the program.

To further insure that the program would click, the department obtained the services of a public relations specialist from the General Electric Company to conduct a course in customer relations for all fire fighters. With the assistance of the fire marshal, this course was tailored to fit the inspector's work.

From his knowledge and experience, the counsel prepared a script based upon typical conversations that take place, or might well take place, during a typical fire inspection. This script was used in playlet form, with firemen playing the leading parts during the training course. It created considerable interest and was instrumental in helping fire fighters absorb more of the customer relations course.

Upon completion of this course, of eight hours in all, for each shift and station, the fire marshal's staff conducted a course in fire prevention for all firemen including officers. This training included detection of hazards commonly encountered in the home, methods of correction, and plans for evacuation in the event of fire.

Fire Chief Quane, reporting on the success of the drive said: "The staggering number of fire casualties resulting from residential fires prompted us to take action to educate our citizens in the defense against fire. Therefore informal discussions on suggested home fire drills and evacuation plans were held with each resident during our city-wide campaign. We feel that the direct appeal of our uniformed firemen did more to encourage participation than any other means of promotion.

"Our observations," continued the chief, "revealed that the average citizen's lack of knowledge constributes to the fear and panic which usually results in casualties during emergencies."

Considerable interest aroused

According to the chief, the discussions and preliminary publicity on the campaign created considerable interest among residents, many of whom discussed their plans with firemen and took the latter's opinions and suggestions to heart. Discussions involved such things as extra basement escapes and use of knotted ropes as fire escapes.

When Chief Quane's report was written, the department had conducted 5,350 inspections. An average of 0.55 hazards per residence was encountered during the inspections. The department feels that the low percentage of hazards was largely the result of the type of publicity centered on gaining the confidence of the local citizens. Chief Quane and his aides believe further, that their residential fire hazards, and fires, will be greatly reduced as a result of this program. Richland's citizens will be more safety-conscious and, of equal importance, the drive has enhanced the knowledge of the fire force and given it new value and standing with the businesses and families it serves.

I. H. Case, General Manager, and Fred Shepperd, Editorial Director, FIRE ENGINEERING; Chief Raul Gandara, Fire Services of Puerto Rico; Chief Newton Wheeler, Miami, Fla., host to the 1956 conference

I. A. F. C. Directors Make Plans for Activities During 1956

THE 1956 ANNUAL MEETING of the Board of Directors of the International Association of Fire Chiefs convened January 9-11 at the Concourse Plaza Hotel, New York City, Chief William Fitzgerald of Seattle, President, presiding.

In his opening report, Chief Fitzgerald set the tenor of the gathering with an impassioned appeal for greater efforts by the fire service in preventing fires and elevating the standards of the service.

"The fire service is fast approaching a crisis in its affairs," the president said. "The cost of local government in cities has increased tremendously and taxes have become a burden to the people of all communities . . . who, through their elected representatives, seek relief and endeavor to reduce the cost of government. In such a situation, all agencies of local government come under scrutiny and they are asked to justify their existence.

"You, as fire chiefs, know the answers in your own cities," he said. Because "the fire department is always one of the most costly municipal departments, it always receives close study." The chief called attention to various efforts by city officials to reduce costs. In this connection he pointed to the msconception some officials have concerning the "idle" time of fire-fighters, and the fallacious belief that fire and police forces can be "integrated" for economy's sake.

"Fire fighters should not take this matter lightly," he cautioned. "Rather, we should study it, make plans about it, establish a continuous fire inspection program to absorb idle time, and be ready with a (fire prevention) program. Unless we do," he warned, "we may price fire protection out of the market or one day find ourselves taking orders from the chief of police."

Saving people from burning to death and saving tangible wealth from destruction by preventing fires, the speaker stressed, are related problems.

Association flourishing

The report of the Treasurer, former Chief Daniel B. Tierney of Arlington, Mass. whose untimely death occurred only a few days later, disclosed that financially the Association is in good condition. This status was further substantiated by the report of the Secretary-Manager, B. R. Townsend, who detailed the services rendered by the headquarter's office to members and to the fire services at large. This has resulted in an increasingly heavy workload on the staff, and Manager Townsend submitted a request for additional help to the Budget Committee (the conference later acted favorably upon this and other requests).

Improvements in the Association's "*News Letter*" and in the quality and quantity of its publications are contemplated.

An encouraging report on the question of past and future exhibits at the Annual Conference was given by Chief Clyde Canning, who urged further cooperation with the manufacturers of equipment and apparatus to make their exhibits more productive. In this connection, plans are under way for better coordinating exhibits with the educational and entertainment program. Following the Board meeting, Chief Canning left for Miami to complete details of the forthcoming November Conference.

The speaker at the Monday luncheon was the Hon. James J. Lyons, president of the Borough of the Bronx.

Shepperd reports on F.C.D.A.

Fred Shepperd, reporting for the Committee on Civil Defense, detailed the deliberations of the Fire Advisory Council of the F.C.D.A. at the November, 1955, meeting in Battle Creek. He told of the research on

Chief C. G. Burnett, past president, I.A.F.C.; Chief Wayne Swanson, Rockford, Ill., first vice-president, I.A.F.C.; Chief Donald Charles, Charlotte, N. C., second vice-president, I.A.F.C.; and Chief William Fitzgerald, Seattle, Wash., president, I.A.F.C.—*Photos by W. J. Scott*

control, prevention and extinguishment of fires being instituted by F.C.D.A. and collaborating agencies. Continuing research is planned, he said, into the control and extinguishment of large fires; the relationship of various meteorological factors to the problems of mass fire development and fire spread and studies of new and unconventional methods for preventing, controlling and extinguishing fires.

Civil Defense, at the local level, he stressed, should be built around the *existing emergency services.* The fire service, he said *"is a Civil Defense Corps in being."*

It was disclosed the National Academy of Sciences, Washington, D. C., is cooperating with F.C.D.A. in basic research projects. On motion, the Board of Directors approved a resolution supporting the research project. In addition, to strengthen the representation of the fire service in this effort, Chief Keith Klinger of the Los Angeles County Fire Department was added to the research group.

The Board devoted considerable discussion to the place of the fire service in time of disaster, such as floods, where martial law is invoked. Included in the discussion was the recent hiatus between the Ottawa, Ont., Fire Department and the Russian Embassy at the fire in the latter's consulate.

Plans for conference in Miami made

Chief Newton Wheeler, who will be host to the 1956 Annual Conference in that city Nov. 12-15 next, reviewed the plans being made. A highspot of the Conference will be the "Latin motif" which will thread through the entertainment and business sessions. This feature of the Conference is being developed by Raul Gandara, Chief of the Fire Department of the Commonwealth of Puerto Rico who, with Bert Case, of FIRE ENGINEERING and Chief Beverly Wade, of Kentville, N. S., make up the I.A.F.C. Program Committee. A number of special features are already planned to better coordinate the entertainment and educational subjects of the four-day gathering.

Chief Wayne Swanson, Rockford, Ill., first vice-president of the Association, reported as Chairman of the Committee on Volunteers. He outlined the efforts of his group to improve the lot of the volunteers and to broaden their effectiveness in fire prevention and fire control fields. He introduced a delegation of volunteers from Pennsylvania, headed by J. W. Johnson, secretary and Francis C. Murphy, president of the Fire Chiefs Association of Allegheny County, Pa. Ross E. Blodgett, Chief Fire Coordinator of that County, was also present. At the request of Chief Swanson, it was voted that each member of the Board name a volunteer from his district who would serve on the Volunteer Committee.

Communications are weighed

Reporting as Chairman of the Committee on Communications, Chief Roi Woolley warned of the pressures being placed on the Federal Communications Commission to re-allocate radio frequencies presently used by the fire service, to the television or other interests. Any action to deprive the fire services of frequencies in the 150- to 160 mc band would set the services back a decade or more, and cost untold millions, he pointed out.

Chief Woolley explained the operations of the Sub-Committee on False Alarms, Deputy Chief Thomas P. O'Brien, chairman, and pointed to the remarkable reduction in malicious false alarms in the City of New York through application of the principles of education advocated by the Sub-Committee. Later, Chief O'Brien appeared before the Board and reported that in some areas false alarms had been reduced by 30 per cent through (1) education of school children, and (2) cooperation of the courts in stiffening the penalties for malicious false alarms. The Sub-Committee is also studying the nomenclature of "false alarms" in an effort to more properly designate what are malicious false alarms and those of "good intent", "accidental", "unnecessary", etc.

Close cooperation between the I.A.F.C. and the International Municipal Signal Association, the International Association of Fire Fighters, the National Board of Fire Underwriters and the National Fire Protection Association was urged by the General Chairman, whose main Committee includes representatives of these and other fire service groups.

Former Fire Chief, and past president of the I.A.F.C., Rudolph Swanson, who holds a civil defense post with the Division of Safety, New York, reminded listeners that all applications for matching funds for communications equipment must be submitted prior to April 15 next.

Fire Marshal George Clough, of Nassau County, Chairman of the Committee on Arson, told the Board that a great percentage of fires classed as "undetermined origin" may well be arson fires, and urged the Association consider arson in all its forms and possibilities.

It was recommended that communications and arson be given a place on the November Annual Conference program.

Chief George McAlpine of Oklahoma City, and a former I.A.F.C. president, told of the successful membership drive by his Committee. Prizes will again be awarded for members bringing in the most new members.

Other general topics reviewed and acted upon by the Board included: Furnishing training assistance to Universities and Colleges. In this connection, it was voted to make a cash

contribution toward the course in fire department administration being conducted by John Gerletti at the University of Southern California; awarding a citation to the Ozzie and Harriet Nelson T.V. program for its interest in the fire service; consideration of new lapel and other Association insignia; possible increase in the Association's library of training and other films, and the building up of the library on firemanship; several contemplated changes in the Constitution and By Laws; support of the Boy Scout movement, and the drive on Muscular Dystrophy.

Cooperation with utilities urged

Also, the Board urged greater cooperation with Public Utilities in fire control and prevention and participation in "Electrical Week". Fire Captain Sanslow of the Seattle Fire Department appeared as a representative of the National Association of Electrical Inspectors, in this connection.

A suggestion was made that the I.A.F.C. protest the recent decision to paint U. S. Mail boxes red. It was voted to extend an invitation to the newly formed Mexican Fire Chiefs Association to attend the November Annual Conference. President Chief Fitzgerald was named to represent the Association at the annual meeting of the Fire Brigades Association in Great Britain next September.

The growth of the Association, with increasing responsibilities of the Headquarter's Office, may necessitate a review of the question of larger quarters, and a committee was authorized to negotiate for such quarters.

Radiological Committee reports

The Committee on Radiological Hazards, Matthew Braidech, Chairman, reported that over 1200 copies of the Association's recent publication on radiological fire hazards had been distributed to other than members.

Chief Henry Thomas of Hartford, and former I.A.F.C. president, reported as chairman of the Committee on Fire Department Apparatus and Equipment of the N.F.P.A.

Reporting for the President's Advisory Committee, Hubert Walker, Manager, MFA Engineering Sales, American LaFrance Corp., Elmira, spoke on the effort to tie in advertising of the apparatus and equipment manufacturers with the Association. He listed twelve items on which the Committee could continue its efforts.

Chief Edward A. MacDonald of White Plains, N.Y., vice-president of the New York State Association of Fire Chiefs and chairman of the Committee on State Vice Presidents, recommended that his group be given additional responsibilities in furthering the work of the International.

On Tuesday, Jan. 10, the Board of Directors and their visitors were the luncheon guests of the National Board of Fire Underwriters at the Concourse Plaza. Mr. John Neale, Chief Engineer and Mr. Bruce Bielaski, Assistant General Manager, spoke on the close and happy relationship existing between the I.A.F.C. and the National Board.

The Wednesday luncheon saw Fire Commissioner Edward F. Cavanagh, Deputy Commissioner Mand, and Acting Fire Chief Edward Connors the guests of the Directors. Commissioner Cavanagh, the principal speaker, told in considerable detail the forward strides being made by the New York Fire Department. He was introduced by Jay W. Stevens, Pacific Coast member of the National Board, and Executive Secretary of the Association.

Commissioner Cavanagh gave credit to the department's intensified radio home inspection and "target inspection" programs for the considerable reduction in the number of fires experienced by the Department during the past six months. He also credited the stepped-up educational program among school children and parents with reduction of false alarms and fires. He pointed out, however, that notwithstanding this effort, loss of lives by fire continue to show alarming increase and he particularly blamed the portable kerosene heater for many of these casualties. He also recounted some of his beliefs on the handling of the complicated "dual-job" situation; the curbing of too exhuberant fire buffs', the need of broader, better firemanship training, and problems of response. Many of these subjects, and the way the Commissioner is meeting them, have previously been discussed in *Fire Engineering*.

In its concluding session, the Budget Committee of the Association brought in an enlarged budget for the year 1956-7 and this was approved by the Board. □□

Air Force Base Has Low Loss Record

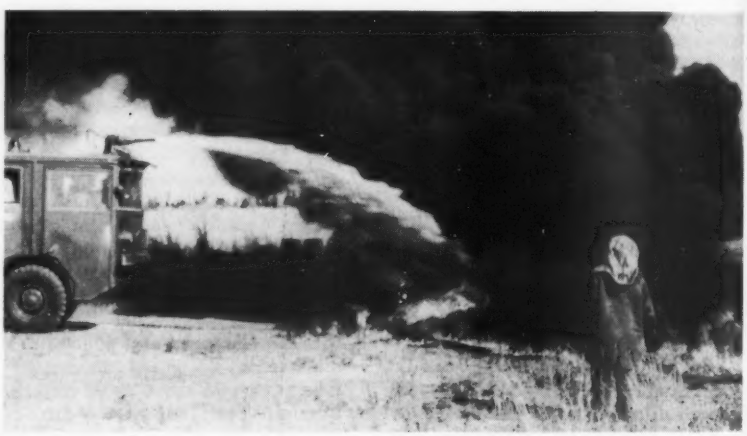
The fire department at Ladd AFB, Alaska, had the lowest loss due to fire for the fiscal year of 1954-55 in the entire Alaskan Command.

During the fiscal year of 1955, the fire department at Ladd AFB established the lowest figure in the past 10 years of $24,826, also the lowest in the command for the past ten years.

The fire department at Ladd is responsible for all structural and forested areas on the base and also the woods around the base. The department is subject to assisting the territorial division of forestry if requested.

To maintain a check on fire or to keep a fire to the minimum of destructiveness, the department pulls periodical inspections of buildings and the areas. Inspections are made of alarm systems, extinguishers, sprinkler systems (which are found in most costly buildings), and water hydrants.

The top man in Ladd's fire department is Chief Carlton C. Ford, who has been with the department here for two years. His assistants are L. A. Martin and Edward D. Thomas. Military top man or NCOIC (non-commissioned officer in charge) is M/Sgt. T. Atkinson.



Truck drivers must drive as close as possible to the blaze so the crews can reach the fire with the least effort. The crews when fighting fires, are split in teams covering the involved area inches at a time. All traces of flames are eliminated before the teams advance or leave a position—*Air Force Photo*

"EUREKA Multiple-Woven Hose gives us an average service life of over 15 years!"

"Over a period of more than 30 years, we have used Eureka's *Paragon* Multiple-Woven hose," states the Chief* of an Eastern municipality's fire department. "Our records show that it gives us an *average* useful service life of over 15 years. Some sections have remained in serviceable condition for 20 years or more.

"This is about 3 or 4 times the useful service we might expect from the lowest-priced approved hose. So Eureka actually gives us nearly twice as much service for every dollar.

"Besides, we know that Eureka *Paragon* hose won't let us down when the pressure is on! I've watched it being made in your plant on the unique loom that weaves all plies at one time and interweaves them into a single jacket of amazing strength and wearing ability. That's why I've never hesitated to push hose pressure to the limit when it was needed."

Let your Eureka representative show you all the reasons why Eureka Multiple-Woven is your best hose buy. Of course, if conditions beyond your control force you to get the most footage for your present hose allotment, he can also show you Eureka's lower-priced approved hose. Write or wire to have him call. Remember, he is a specialist in fire hose!

*Name on request

Note how criss-crossing vertical cords tie all plies into a single jacket.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

1 Market Street Passaic, New Jersey *Division of* **United States Rubber**

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

C-O-Two and Pyrene Merge

Solomon R. Baker, chairman of the board and president of Pyrene Manufacturing Company and its wholly-owned subsidiary, C-O-Two Fire Equipment Company, recently announced a merger of the two companies and the adoption of a new name, Pyrene—C-O-Two Corporation, effective December 30, 1955.

This corporate merger of the two companies, Mr. Baker said, has been preceded by unification of research, engineering, manufacturing, sales and most administrative functions over the past year.

The company's general offices and main plant are in Newark and other plants and offices are in Chicago and Los Angeles. Additional sales and engineering offices are in Atlanta and Dallas.

Pyrene, established in 1907, produces principally vaporizing liquid, soda-acid, water, and chemical foam fire extinguishers, and air foam fire extinguishing systems. C-O-Two, established in 1925 and affiliated with Pyrene in 1933, produces carbon dioxide and dry chemical fire extinguishers and fire extinguishing systems, as well as smoke and heat fire detecting systems including the recently perfected radio-active Pre-Detector System. The corporation will continue the Pyrene and C-O-Two brand names.

The names and existence of other wholly-owned subsidiaries are not affected by the merger. Domestic subsidiaries are Pyrene Metal Finishers, Inc., and Chemical Concentrates Corporation. Metal Finishers offers jobbing services and licensing arrangements in a number of specialized metal plating processes. Chemical Concentrates produces fire extinguishing compounds and metal finishing chemicals. C-O-Two Fire Equipment of Canada, Ltd., is the only foreign subsidiary.

Officers of the parent corporation remain the same: Mr. Baker, board chairman and president; Maynard A. Laswell, executive vice president; Frank B. Allen, Luis E. Eckelmann, Frederick G. Davison, William Horowitz and Arthur F. Ratzer, vice presidents; Louis Levine, treasurer; Bernard S. MacCabe, secretary; and Ralph F. Batch and Charles S. Duncan, assistant secretaries.

New Training Film On Hose Available

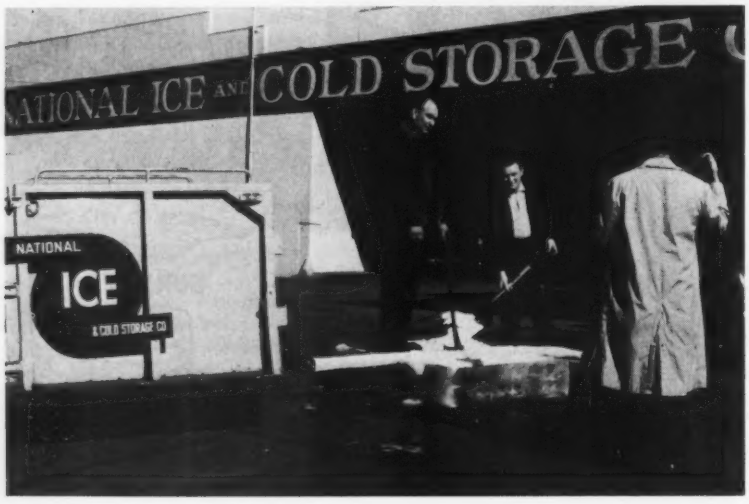
"Care and Maintenance of Fire Hose" is the name of a new fire training film for which Civil Defense matching funds reportedly will be available.

The film is black and white, with sound; the running time of 21 minutes. It shows various types and sizes of fire hose; factory and fire department tests; types of mechanical and chemical injuries; how to conduct hand or pumper hydrostatic tests; care, storage and proper techniques for loading, laying and picking up; and correct procedures for washing and drying and inspecting fire hose.

The film is a revision of an earlier film "Fire Hose" and is the result of extensive research and the cooperation of professional fire fighters and the San Francisco Office of the National Board of Fire Underwriters. The script avoids showing methods that might differ from one department to another.

The producers acknowledge the cooperation of the San Francisco Fire Department, Chief Frank P. Kelly, Chief of Training William Gilmore and Captain Al Potter; the Emeryville, Cal., Fire Department, Chief Schuyler; and the Menlo Park Fire Department under Chiefs Cuff and Carter. Laboratory sequences were shot at the American Rubber Manufacturing Co., in Emeryville, Cal.

Black-and-white, sound prints (16 mm) may be obtained for $100. For preview prints, film outlines and other data, address the producer, Fire-Fighting Films, 304-A Green Street, San Francisco 11, Cal.



Battery-Powered Megaphone

Called "Radionic Ultra Sonic Portable Public Address System," a new, lightweight megaphone has been announced by Radionic Industries, 321 West Hubbard Street, Chicago 10, Ill.

Designed for carrying comfort and convenient usage, this unit consists of (a) A case measuring 10½ inches by 6 inches by 4¼ inches, made of heavy plate steel so the unit will always remain upright, and finished in gunmetal, baked enamel; (b) Trumpet type speaker made of aluminum, finished same as base, 9 inches in diameter, 8 ohm, 12 watt output, completely weatherproof and rustproof; (c) Microphone, with 8-foot rubber-covered extension cord which permits passing the microphone to other persons nearby. An adjustable strap enables the user to suspend the unit from either shoulder, as illustrated, if desired.

The unit operates on four 6-volt dry batteries.

When using, there are no adjustments to make, no dials to turn, no tuning in; just press button, and start talking.

New Alternator Literature

Two four-page folders illustrating and describing two new models (5410-G3 and 5412-G6) of its heavy duty alternators, are now available from the Leece-Neville Company, 1374 East 51st Street, Cleveland 3, Ohio.

Designed to replace D.C. generators on light and medium trucks, etc., the

Continued on page 145

YOU EXPECT THE BEST FROM AKRON BRASS

– here it is . . .

Entirely New PDQ FOG NOZZLE

Resilient rubber bumper for protection against damage ★

★ Corrugated no-slip grip

Adjustable through all angles of fog ★

★ High gallonage

Positive stream positioning — by feel or sight. Clicks into fog patterns or straight stream ★

★ Easy pattern indicators

Swivelling "Rocker Lug" base — handle is always on top ★

★ Akron quality ball shut-off

You too will agree — finest nozzle of its type

★ Man-size handle

PERFORMANCE DATA

100 P.S.I. Nozzle Pressure

STYLE	SIZE	NARROW FOG GPM
1209	¾" - 1"	24
1218	1½"	95
1219	1½"	125
1229	2½" for PP	250
1239	2½" Dir. Con.	250
1249	2½" with PP	250

Akron Brass Mfg. Company, Inc., Wooster, Ohio

AKRON BRASS

FIRE FIGHTING EQUIPMENT

FALSE ALARMS

Discretion

The works manager of a certain railway company had a reputation among the staff for meanness.

The pet bee in his bonnet was oil and waste. He was always driving home the fact that if every employee was careful with oil and cotton waste, money would be saved.

One day he was having a few words with a very new driver.

"Tell me," he ordered, "what would you do if you were driving one day and saw an express thundering towards you on the same line?"

The novice thought hard. Then: "I'd grab the oilcan. I'd grab the waste—and I'd jump!"

The fellow who gets loaded too often will eventually get fired.

George was attempting to sell a fine English tweed, which in the course of its life had come too near a skunk.

"This is a fine suit. You couldn't get a better one in New York. Feel the goods."

"Yeah," said the customer, "but what's that funny smell?"

"That's me. Ain't I a stinking son-of-a-gun?"

Beggar: "Say, Buddy, could you give me two bucks for some coffee?"

Businessman: "Two bucks? I always thought you fellows asked for a nickel for coffee."

Beggar: "Yeah, I know, but I'm putting all my begs in one ask-it."

Interest

"My man," she said, "can you tell me whether this is a female hippopotamus or a male hippopotamus?"

Then the worm turned. The keeper eyed the lady coldly. His tone was metallic.

"Madam," he said, "I don't see how that could interest anyone but a hippopotamus."

The patient was getting better, but then he took a turn for the nurse.

"I understand they use them to find fire hydrants at night."

Bully

At a meeting of a local council there had been some discussion regarding the type of milk which should be provided for the school children. To conclude the debate, the chairman rose portentously to his feet. "Gentlemen," he declared, "what this town needs is a supply of clean, fresh milk, and the council should take the bull by the horns and demand it."

Wife: "Hello, hello, is this the Missing Persons Bureau? My husband has disappeared. Can you help me find him?"

Bureau Chief: "Certainly, Madam, will you describe him?"

Wife: "Of course, thank you. He's short and very fat. And bald. Likes blondes and alcohol. Wears thick glasses and has a highpitched, squeaky voice with a red nose. And —uh —oh, the devil with him. Never mind!" (And she hung up.)

Thwarted

A girl met an old flame at a party and decided to high-hat him.

"Sorry," she murmured, when the hostess introduced him to her, "I didn't get your name."

"I know you didn't," replied her ex-boy friend, "but you certainly tried hard enough."

Secrecy

Woman: "I want to know how much money my husband drew out of this bank last week."

Teller: "Sorry, madam. I can't give you that information."

Woman: "Well, aren't you the paying teller?"

Teller: "Yes, madam, but I'm not the telling payer."

The world will forgive, if we're just a bit "blue,"
And perhaps, if we're just a bit "green,"
But it never forgives, nor it never forgets
If the least trace of "yellow" is seen.

Promotion

The President of a trucking line called in one of the line's junior clerks and said, "I've been getting some very fine reports about the way you've been discharging your duties, and I'd like to reward your good work."

The young man beamed at this compliment.

"How much are we paying you?" asked the big boss.

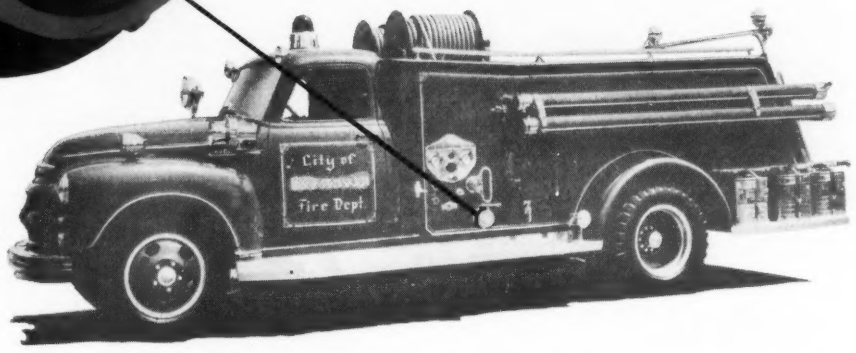
"Twenty-five dollars a week," replied the junior clerk.

"From now on," decreed the president, "you'll get a salary of $50,000 a year and an unlimited expense account. What do you say to that?"

"Gee," excitedly exclaimed the young clerk, "that's wonderful. Thanks a lot, Dad."

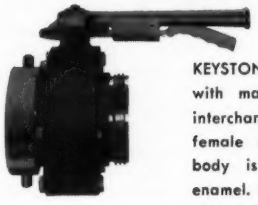
KEYSTONE *Hydrant* VALVES

QUICK ACTING!
EASY OPERATION!



Bubble-tight closure!

KEYSTONE HYDRANT VALVES are designed for use where speed and efficiency are essential. Drop-tight closure, non-lubricated, self-cleaning, replaceable freeze-resistant seat, dependability at —40° temperature . . . these and other features make KEYSTONE VALVES desirable for use on trucks or where soft suction hose is used by street and sewer departments who desire to attach a valve to a 4-1/2" streamer opening on a fire hydrant to reduce to 2-1/2".



KEYSTONE HYDRANT VALVES are furnished with male and female flange connections, interchangeable on either side. Lever handle, female nut, and bolts are chrome plated; body is finished in weather-resistant red enamel. Special connections and finishes furnished to specifications.

Write for full information on KEYSTONE HYDRANT VALVES. Available through fire apparatus manufacturers as standard or replacement equipment. Sizes, 2-1/2", 4", 4-1/2", 5" and 6".

KEYSTONE

KEYSTONE VALVE CORP.

5325 KIRBY DRIVE • P. O. BOX 6716 • HOUSTON 5, TEXAS

THEN . . . Equipment
Limited Fire Fighting To DEFENSE

1948 . . . Michigan Firemen had their hands full with this warehouse fire, which, they said, was the worst in several years. The sprawling three-story building was occupied by several industrial concerns. Damage was estimated at $500,000. (Int. News Photo)

NOW . . .
IT'S FIRE ATTACK!

FOR THE BEST *FIRE ATTACK*

GET IN FAST WITH A SCOTT AIR-PAK

YOURS IS A **FIRE ATTACK** DEPARTMENT IF YOU HAVE SCOTT AIR-PAKS ON EVERY FIRE TRUCK

An editorial in FIRE ENGINEERING (November 1953) stated "This failure to GET IN, to GET AT the fire in its early stages, has been a prime contributor to much of our mounting fire losses . . . and emphasizes the wisdom of adequately equipping the fire force with all the mask and breathing apparatus . . . required in *FIRE ATTACK.*"

Protect your men against smoke with SCOTT AIR-PAKS. Get in Fast for efficient *FIRE ATTACK.* Save more lives and reduce fire losses to a minimum. Write for complete information.

VISION UNLIMITED

New Scottoramic Face Mask now available for all Scott equipment, (standard on most models), and for replacement on your present breathing apparatus.

SINCE 1932 Scott THE SAFETY-FOR SERVICE!

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

215 ERIE STREET LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, N. Y.

World-Wide Fire News

Korea Ship Fire Claims 70

Seventy passengers, trapped in a third-class cabin of a small coastal ship, were burned to death, and many injured, when flames roared through the vessel.

The fire started when a cabin-boy dropped a kerosene lamp, turning the jammed below-deck cabin into an inferno. The boy and the ship's captain were arrested on a charge of negligence.

The 130-ton ship was docked at Samchonpo, about 60 miles west of Puson on Korea's north coast. The cabin floor was covered by a mat which flashed into flame and spread to cotton quilts and blankets. Within seconds the tiny cabin was aflame.

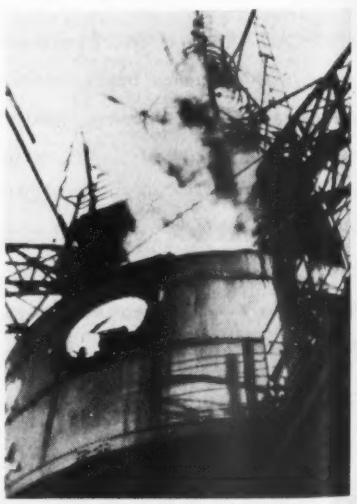
First class passengers fled to safety without trouble, but nearly all the third class occupants were trapped and burned. The dead included seven small children. Nearly 20 were injured.

The flames raged for three hours, practically gutting the vessel.

Eiffel Tower Fire a New Record in Height

When Gustave Eiffel designed the tower that bears his name, for the International Exposition in 1888, he never envisioned fire fighters having to combat a fire atop the huge steel skeleton. Nor, perhaps did the French firemen themselves anticipate what happened January 3, last.

Fire broke out at the very apex of Paris' famed landmark at the time the government-operated television network was working at full blast, carrying the results of the French elections. The blaze reportedly began in the television coaxial cable installation on the tower's top floor. Black smoke could be seen all over the city by the startled Parisians who long



Smoke pours from the top of Paris' Eiffel Tower after fire broke out on the old landmark early on January 3.

have joked that it would be strange indeed when the 67-year-old steel framework in their midst caught fire.

The first alarm brought nine fire units of the metropolitan Paris Fire Brigade, two patrol cars and a swarm of firemen. The elevators in the 984-foot structure were inoperative, and firemen had to lug hose and equipment up 1710 steel steps to reach the blaze.

The blaze was extinguished in three hours, doubtless much of that time being devoted to the long journey up the stairs. The TV program was briefly interrupted, but by 9:00 a.m. the announcer was able to counsel his listeners that all was well, the fire was out and the landmark still stood. Just to prove it, the camera showed shots of the tower from base to top with no smoke and no firemen visible anywhere.

Rockland Turns Up Century-Old Roll of Fire Hose

Fire Chief Wesley Knight of the Rockland, Me., Fire Department is the possessor of a roll of fire hose believed to be between 90 and 100 years old, which was uncovered in December by Rockland Public Works Department crews.

The crews were demolishing an old building on Lindsay Street in preparation for the construction of a parking lot behind the Masonic Temple. The hose was found coiled under the floorboards of the old building, where it had laid for years. It is made of leather and rivited together. It has brass couplings and was used evidently by fire departments in the days of the old hand engines.

Just what the hose was doing in the old house remained a mystery, but Chief Knight, who gladly accepted the relic, planned to polish up the brass, lacquer the leather and make a display piece of it.

Thanks *Jack Kearns*

Two Canadian Ship Fires To Be Re-Studied For Arson

It is announced that investigation into two Canadian Steamship fires that cost the lives of 135 persons in 1949 and 1950 has been reopened.

The action follows the discovery of evidence that both disasters might have been caused by an arsonist. A motive for at least one of the two fires has been suggested. It was that the blaze was set either to murder an underworld character or to conceal the fact that he was murdered.

This was the fire aboard the Canada Steamship Lines' "Quebec" when the vessel burned with a loss of seven lives near Tadoussac in the St. Lawrence River in 1950. A year earlier the "Noronic," of the same line, burned in Toronto harbor with a toll of 128 lives.

Disclosure that arson might have been the cause in both disasters was made by Dr. Roger Potvin, of Laval University, a legal scientific investigator.

Speaking at a meeting of the Ottawa Chapter of the American Society for Metals, Dr. Potvin revealed that late in December a special investigator had been

news in fire protection

NEW "HAT" FOR FOAM ENGINES

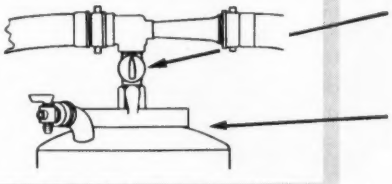
multiplies foam output --cuts maintenance cost

If your fire protection system includes conventional 40-gallon chemical foam engines, you can now convert them to Aer-O-Foam operation at low cost . . . and at significant savings in maintenance expense!

By so doing, you also increase their fire-fighting effectiveness by more than 4,000 percent. Foam output is increased from 300 gallons to 14,000 gallons when the converted engine is connected to a water line with pressure of 90 psi or more.

Moreover, if not discharged completely, the unused charge need no longer be discarded, as in the case of chemical foam. Annual recharging is no longer necessary.

Conversion units are available for use with either 3% or 6% Aer-O-Foam Liquid . . . or with a metering valve to handle both concentrations. Ask your National Foam distributor, or write direct for information.



NATIONAL FOAM SYSTEM, Inc.
West Chester, Pa.

NATIONAL FOAM FIRE PROTECTION SYSTEM

assigned to complete the evidence and bring the guilty man, or men, to justice.

The actual cause of the fire in each ship was never fully explained, but from the first there were hints of arson as to its origin.

Fresh from the World Fire News Ticker

Fire, fanned by the fringe winds of Typhoon Patsy on December 3, destroyed 950 houses in Naze, largest city on Anami-Oshima Island, Japan, leaving 5600 persons homeless. . . . Fire swept through 2500 huts in the squatter area of Rangoon, killing five persons. . . . When fire raged through a building at Laval University, Quebec, on January 5, 800 small animals kept for use in experiments were killed. The animals included rabbits, guinea pigs, dogs and a monkey. . . . On the night of January 5, a RB-36 intercontinental bomber caught fire upon landing at Ellsworth Air Force Base and was destroyed. The nation's fire loss got a $7 million hike, but 21 airmen escaped unharmed. Air Force Base fire fighters subdued the flames within an hour. . . . It was announced January 7 that the U. S. will probably test larger-than-ever hydrogen bombs in the Pacific this spring—bombs with an explosive force of 40 million to 50 million tons of TNT. . . . The death toll in the blast furnace explosion of November 26, last, in Dortmund, Ga., is now 7. . . . *When a burning fishing vessel was driven aground 50 yards off Good Harbor Beach, Mass., December 2, a Coast Guard helicopter carried the end of a fire department hose line out to the blazing craft. With it, Captain Eugene M. Naves, and his one-man crew of the 52-foot whiting dragger Veronica N., extinguished flames in the forecastle. Seems this is another important "first" in the annals of the fire service.* . . . Twenty auxiliary police withdrew from the village of Ardsley, N. Y., service December 22 because trustees would not let them carry pistols while on duty. They resented being "treated like Boy Scouts." The force remained intact for emergency Civil Defense service to the state.

"I go for a DRAGON® FIRE PUMP every time!"

Give a fireman a choice and he's sure to go for the Dragon Fire Pump —the one designed from *his* point of view.

Dragon Fire Pumps come *completely assembled.* And because there's no pump packing to dry out, they're always ready for instant action, even after standing idle for long periods. The special harness is not only easy to get into, but designed so the pump rides high where it can't throw the fireman off balance or interfere with walking.

Dragon Fire Pumps fight fire *and* fatigue! Just a few easy strokes of the pump lever gives the operator a *continuous* flow of water he can direct right where it does the most good. And a mere twist of the shut-off nozzle gives either solid stream or spray *instantly.* What's more, a fireman using a Dragon Fire Pump can take his hands off both shut-off nozzle and pump lever to use rake, shovel, or other tool.

Specify Dragon Fire Pumps and get the pump designed with the *firefighter* in mind.

VALUABLE DISTRIBUTORSHIPS AVAILABLE, WRITE TODAY.

Dragon FIRE PUMPS

now available in 2 models

No. 150-S—Stainless Steel Tank

No. 150-G — Galvanized Tank: Cold-rolled steel, hot-dipped galvanized after fabrication.

All units equipped with brass pumps; all tanks seam welded. Capacity 5 gallons

DRAGON FIRE PUMPS meet Underwriters' Laboratories requirements and can be supplied with the UL label of inspection attached.

PARCO PRODUCTS COMPANY

PENNSBURG, PENNSYLVANIA

Convention Dates

Feb. 21-24—**Fire Department Instructors Conference.** Annual meeting, Memphis, Tenn. For information, write to Harry H. Wolff, Conference Secretary, P. O. Box 1089, Chicago 90, Ill. Hotel reservations should be sent to the Hotel Reservation Desk, Fire Department Headquarters, 65 South Front St., Memphis 3, Tenn.

Mar. 7-8—**Philadelphia Safety and Fire Conference.** Annual meeting, Broadwood Hotel, Philadelphia, Pa. Session on March 7 sponsored by the Keystone State Fire Chiefs Association. For information, write Lewis M. Atkinson, Recording Secretary, Keystone State Fire Chiefs Association, Malvern, Pa.

Apr. 3-6—**Maryland Short Course for Fire Inspectors.** Annual meeting, University of Maryland, College Park, Md. For information contact, Robert Byrus, Director, Fire Service Extension, University of Maryland, College Park, Md.

Apr. 23-27—**International Arson Investigator's Seminar.** Annual meeting, Purdue University. For information, address Professor Shelby Gallien, Seminar Director, Public Safety Institute, Purdue University, Lafayette, Ind.

May 7-9—**Eastern Association of Fire Chiefs.** Annual meeting, Rochester, N. Y. Secretary, Chief Edwin J. Clark, Box 328, Wayne, Pa.

May 19—**Keystone State Fire Chiefs Association.** Spring meeting, Oakland Fire Company Station, Johnstown, Pa. For information, contact Lewis M. Atkinson, Recording Secretary, Malvern, Pa.

June 9-10—**Central Western Firemen's Association.** Annual fire school, Brookville, Ohio. Chairman, W. H. Cheesman, 309 Briarcliff Road, Dayton 5, Ohio.

June 25-28—**New England Association of Fire Chiefs.** Annual meeting, The Wentworth, Portsmouth, N. H. Secretary-Treasurer, John O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

June 27—**Central Western Firemen's Association.** Annual meeting, Germantown, Ohio. Secretary, Roger C. O'Donnell, Covington, Ohio.

June 28-30—**International Fire Buff Associates.** Annual meeting, Newark, N. J. For information contact the host association, The Bell and Siren Club, Inc., William E. Conradi, Secretary, 86 Wakeman Avenue, Newark 4, N. J.

Sept. 20-22—**Westchester County Volunteer Firemen's Association.** Annual meeting and parade, North Tarrytown, N. Y. Secretary, John R. Bailey, Box 1, Baldwin Place, N. Y.

Oct. 4-6—**Ohio Fire Chiefs' Association.** Annual meeting, Hamilton, Ohio. General Chairman, Chief George Schlotterbeck, Fire Headquarters, Hamilton, Ohio.

Nov. 17-21—**International Association of Fire Chiefs.** Annual meeting, Miami, Fla. Secretary-Manager. B. Richter Townsend, Hotel Martinique, Broadway at 32nd Street, New York 1, N. Y.

Manufacturers' News

Continued from page 138

new models are also particularly suited for fire department vehicles with two-way radio or telephone.

The folders detail both models, one for vehicles with 6-volt electrical systems and the other for 12-volt systems.

Both models feature ample current at all speeds; less weight and smaller size than a D.C. generator; long life and high reliability. A transformer may be attached to the alternator to give up to 800 watts of 110-volt portable power.

C. P. Sagar V. P. of Falcon

The election of Charles P. Sagar as a vice president of Falcon Alarm Co., Inc., of Summit was announced recently by C. E. Graham Reeves, president of the safety equipment manufacturing firm.

Mr. Sagar served for seven years as a production executive in Interchemical Corporation's Printing Ink Division. A graduate of Yale University in 1948 and a U. S. Marine Corps veteran, Mr. Sagar resides in Short Hills, N. J.

Stainless Steel Pressurized Extinguisher

A lightweight, stainless steel, pressurized water fire extinguisher has been developed by The Fyr-Fyter Company, Dayton, Ohio, and is now in production. According to Roy Elder, Fyr-Fyter Sales Promotion Manager. This light weight and convenient portability makes it more adaptable for women as well as men; it is particularly suitable for installation in fire hose and extinguisher cabinets in schools, hospitals, industrial plants.

A slight pressure of the thumb releases a 35 to 45-foot stream of water. Unlike non-pressurized models, the liquid supply can be shut off and conserved to meet the demands at the scene of a fire.

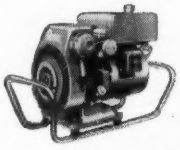
The extinguisher can be pressurized with air from any convenient source, such as a gasoline service station, or with the portable nitrogen recharging units. A visual pressure gage tells at a glance

RUGGED

is the word for this

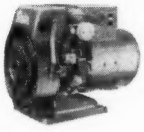
New ONAN 2-KW Electric Plant

Put it to work on your toughest jobs!



PORTABLE POWER

Stands up better under rough handling. Carrying -frame or 2-wheel dolly optional.



PRIMARY POWER

Runs longer in continuous day-after-day service. Dependable, economical.

A dependable source of electricity for emergency standby use

Built to do the job where other units won't stand up! This new 2,000-watt, A.C., 115 or 230-volt, gasoline-driven Onan plant can take all kinds of punishment and come back for more. It's powered by a husky, Onan 4-cycle, single-cylinder, engine with Stellite-faced rotating exhaust valve, larger longer-wearing bearings, and efficient, trouble-free air-cooling. The Onan-built generator is direct-connected, permanently aligned, and fully-protected for use under all climatic conditions.

The Onan "LK" is compact too . . . requiring less than 3 square feet of floor space. Heavy-duty construction throughout . . . yet it weighs only 235 pounds. In carrying frame or dolly-mounted it can be taken anywhere and is easily moved around on the job.

The rating of 2,000 watts is conservative, allowing ample overload. Fuel consumption at full rated load is less than one quart of gasoline per kilowatt hour, making the "LK" a low-cost source of primary power. Recoil rope starter on models for portable use; electric starting available for stationary installations; automatic controls for emergency standby use.

Wide range of accessories available

Write today for special "LK" folder!

Onan ELECTRIC PLANTS

D. W. ONAN & SONS INC.

3018 UNIVERSITY AVE. S.E. • MINNEAPOLIS 14, MINNESOTA

MORE built-in PROTECTION!

BUFFALO better-built

CARBON DIOXIDE EXTINGUISHERS

- INSULATED HORN HANDLE
- KINK-PROOF HOSE
- CARRYING HANDLE
- SNAP-OUT HORN CLAMP
- SEAMLESS, DRAWN STEEL CYLINDER
  Tested to 3000 P.S.I.

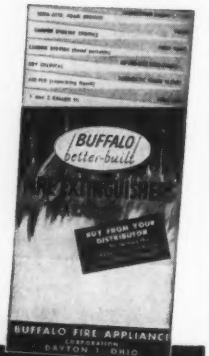
E-Z SQUEEZE GRIP VALVE

- LOCK PIN FOR ADDED SAFETY
- SAFETY VALVE
- RELEASE LEVER
  Squeeze to open, release to close
- PRESSURE WORKS AGAINST SEAL
- RECOIL PREVENTOR
- VALVE OPEN LOCKING DEVICE

AVAILABLE IN 2½, 5, 10, 15 AND 20 POUND SIZES. ALSO 50, 75 AND 100 POUND WHEELED ENGINES

UNDERWRITERS' LABORATORIES, FACTORY MUTUAL AND COAST GUARD APPROVED!

You get surer fire protection from Buffalo better-built extinguishers because there's more protection built-in! Highest engineering standards, exacting manufacture and precision inspection produce the finest extinguishers possible. Dealing with your Buffalo industrial distributor has many advantages. He carries a complete line of Buffalo *better-built* portable extinguishers, parts and recharges. Simply call him, one transaction, will answer your fire protection needs in a hurry. Call him now! He is listed in the yellow pages of your telephone directory!



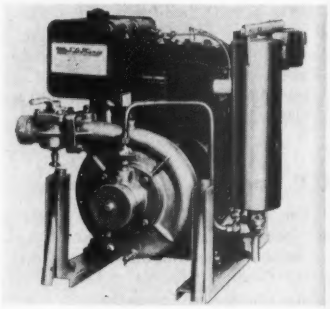
WRITE TODAY FOR THIS COMPLETE POCKET GUIDE TO FIRE PROTECTION!

BUFFALO FIRE APPLIANCE
CORPORATION
DAYTON 1, OHIO

if the extinguisher is in proper operating condition.

It is constructed of dent-resistant stainless steel and hydrostatically pressure tested to 500 lbs. psi.

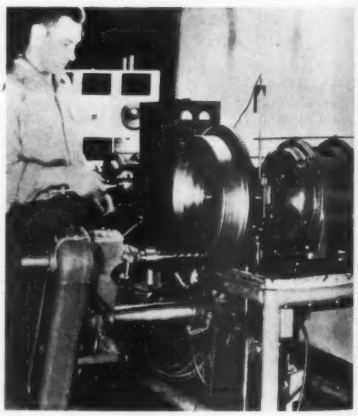
New Ward LaFrance Portable Pump



Ward LaFrance International, Inc., Elmira, N. Y., has announced a new portable centrifugal fire pump known as Model D which incorporates the following specifications: Weight—130 pounds; Pump: Single stage centrifugal; 2½-inch suction opening with brass screen and cap; simple exhaust primer; 1½-inch discharge gate and cap. Engine: Briggs & Stratton Model 23FB 4-cycle, aircooled; 8.4 hp at 3600 rpm; 8.1 hp at 3000 rpm; throttle control on engine head; 6-quart fuel tank; also, carrying frame of channel steel with folding handle. Frame rests on rubber pads to absorb vibration and prevent skidding.

Performance rating is given as follows: 60 gpm at 90 psi; 125 gpm at 60 psi; 160 gpm at 40 psi and 200 gpm at 20 psi.

Balancing Rotating Parts



Seagrave Corporation engineers recently built a production dynamic balancing bench around an electronic instrument, a vibration analyzer, for inspection and balancing of major rotating parts of its fire truck engines and pumps in its Columbus, Ohio plant. One operator performs this work for the entire production line.

Substantial savings over static balancing (or having dynamic balancing done

outside) have been shown. The cost of balancing high pressure pump impellers, which must turn at nearly 10,000 rpm, was cut from the $3 custom charge to 14.6 cents. Balancing time for the Seagrave 215 hp Model E engine flywheel was cut from 7 minutes to 5.55. A 500 gpm pump impeller now is balanced for 19 cents, against the former 26.6 cents.

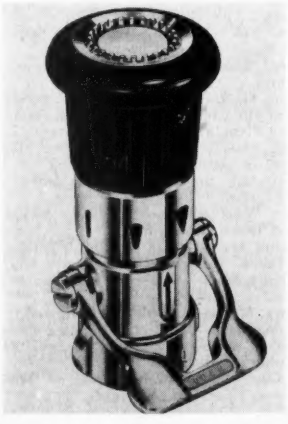
In the engine water pump impeller, turning at 7,500 rpm, the new procedure provided a bonus in solving a serious problem of leaking seals.

The vibration analyzer is made by the International Research & Development Corporation of Columbus.

The photograph shows the Seagrave balancing bench, with the operator holding the stroboscopic light on a 102-pound flywheel. The pickup, which can also be held in the operator's hand, is mounted vertically, with the point of a filtering probe resting on the bearing of the arbor. The instrument cabinet rests on the bench behind the flywheel.

New Type Adjustable Fog Nozzle

A new type adjustable fog nozzle has been introduced by Akron Brass Manufacturing Company, Inc., Wooster, Ohio. It is called "PDQ." The nozzle, available in either polished brass or chrome plate, is equipped with a large protective bumper.



Click-in stops afford easy adjustment for straight stream, narrow or wide fog pattern. Easy-to-read, or feel, indicators make it possible to pre-set the discharge pattern desired before opening the integral quarter-turn ball shutoff.

Nozzles have a swivelling "rocker lug" base so that the operating handle will always be in an easy operating position. Available in ¾-inch, 1-inch, 1½-inch and 2½-inch sizes in various gallonages.

New Indian Pump Catalog

The D. B. Smith & Company, Utica 2, N. Y., has just published Catalog No. 32 which supercedes previous publications.

The 16-page catalog is printed in several colors, and contains pictures of Smith Indian fire pumps in use and mounted on different equipment. It also includes complete specifications and current prices.

1000 GALLONS A MINUTE WITH A 2-WAY Eastman DELUGE GUN

THE TWO-WAY GUN

is the smallest and lightest of the permanent-portable type equipment which we manufacture. A deluge gun designed for either portable or permanent use when mounted on apparatus with the carrying brackets supplied.

The turret head revolves easily on ball bearings; the waterways are engineered for minimum friction loss and the gun overall is designed for the safe and efficient handling of solid streams at all pressures.

Write for
BULLETIN No. 1-56

Samuel Eastman Co., Inc.
Concord, New Hampshire

What's Burning?

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from December 22nd to January 22nd.

Selma, Ala.—Three buildings in warehouse district on Water avenue destroyed.
Anderson, Cal.—Ralph L. Smith Lumber Co. damaged.
East Stockton, Cal.—United Mercantile Co. building destroyed.
Los Angeles, Cal.—California Foam Products Co. plant destroyed; Zahoric Bros., contractors, and Dorsey Co. textile plant, damaged.
Palo Alto, Cal.—Metalead Products Corp. destroyed. Overheated oven.
Petaluma, Cal.—Safeway market destroyed. Faulty refrigeration.
San Francisco, Cal.—Southwest Airways hanger and Marin airliner at International Airport, destroyed.
San Jose, Cal.—Future Co-Op Market destroyed.
Middletown, Conn.—St. Paul's Evangelical Lutheran Church damaged.
Norwich, Conn.—Dwelling of Harold J. Slosberg destroyed.
Thomaston, Conn.—Building occupied by W. T. Grant Co., department store, and Thomaston Bowling Alleys, destroyed.
Zolfo Springs, Fla.—Burke Equipment Co. building destroyed. Faulty wiring.
Douglas, Ga.—Farmer's Brick Warehouse, stored autos and some farm equipment, destroyed.
Douglasville, Ga.—Douglasville County courthouse destroyed.
Savannah, Ga.—Colonial Stores, Inc., grocery, and Cake Masters Bakery destroyed; adjacent Maternity Shop and Lane's drug store damaged.
Chicago, Ill.—Shed and hardwood lumber of Sterling Lumber & Supply Co. destroyed.
Chicago, Ill.—Seven buildings of Johnson & Jennings Foundry Corp. destroyed.
Chicago, Ill.—St. Paul's Evangelical and Reformed Church destroyed.
Chicago, Ill.—Wabash Railroad freight house damaged.
Chicago, Ill.—Building occupied by Abco Mold and White Metal Casting Co.; communicated to building by E. Samuelian, damaged.
Hillsboro, Ill.—George's Pharmacy, Johnny Herman's taxi stand and Rosenfeld Dress Shop destroyed.
Quincy, Ill.—Dave McCormick Pontiac garage and sales room destroyed.
South Beloit, Ill.—Coal washing shed damaged.
East Chicago, Ind.—Garfield Elementary and Junior High School destroyed.
Elkhart, Ind.—Charles S. Drake Co. department store in downtown, damaged.
Hope, Ind.—Fishel's Produce Co., manufacturer of dog food and poultry feed supplement, destroyed.
Russiaville, Ind.—Grain elevator of Sellars Grain Co. destroyed.
Bellevue, Ia.—Building housing American Legion Hall and two apartments, destroyed.
Centerville, Ia.—Levine Company corrugated sheet steel fabricating plant damaged.
Clarksville, Ia.—Buildings occupied by Schaeffer barber shop, Perry jewelry store; Skinner cafe, Squire tavern and Perkins radio shop, destroyed. Overheated stove.
Marengo, Ia.—Building housing Simmons Auto sales agency and garage destroyed.
Covington, Ky.—Building occupied by W. W. Welsh Fan Co. destroyed.
New Orleans, La.—Galatoire's famed French Quarter restaurant damaged.
Fairfield, Me.—Giguere Building occupied by Giguere's supermarket, spread to five-apartment Shibley Block, occupied by Shibley's clothing store and grocery, destroyed.
Mapleton, Me.—Mapleton High School destroyed.
Crisfield, Md.—Hudson building occupied by Crisfield Post destroyed.
Easton, Md.—Economy Furniture Store and warehouse destroyed.
Boston, Mass.—Temple Atherath Israel destroyed.
Canton, Mass.—Clubhouse of the fashionable Blue Hill Golf and Country Club destroyed.
Jamaica Plain, Mass.—Centre Theatre damaged.
Lowell, Mass.—Professional building, housing scores of medical offices, an appliance store, paint store, tire shop, cafe and barber shop, destroyed.
Malden, Mass.—Edward E. Burns & Son Funeral Home damaged.
Randolph, Mass.—Grain elevator of Diauto Coal & Grain Co. destroyed. Defective wiring.
Somerville, Mass.—Somerville High School damaged.
Sudbury, Mass.—Wayside Inn destroyed.
Taunton, Mass.—Mercantile building damaged.
Bad Axe, Mich.—Offices and shed of Brinker Lumber Co. destroyed.
Bay City, Mich.—Main plant of Michigan Frosted Foods Co. damaged.
Bay Port, Mich.—Building owned by Wallace and Morley Co., housing owners' offices and Bay Port store destroyed.
Birch Run, Mich.—Two new buildings of Charles Wolohan Cash and Carry Lumber Yard destroyed.
Charlevoix, Mich.—H. O. Krahnke building housing Charlevoix post office and Stanton Toy and Hobby Harbor, damaged.
Oxford, Mich.—Oxford Co-operative Elevator destroyed. Electric heater.
Pontiac, Mich.—New Haven Farmers Elevator Co. storage building damaged.
Willmar, Mich.—Turkey processing plant destroyed.
Biloxi, Miss.—Airmen's club at Keesler Field Air Force Base destroyed. Electrical circuit system.
Creve Coeur, Mo.—Office and factory building of Planetary Chemical Co. destroyed.
St. Louis, Mo.—Maple Avenue Methodist Episcopal Church damaged.
Missoula, Mont.—A and M Service Station destroyed.
Omaha, Neb.—National Alfalfa Co. warehouse destroyed.
Cape May, N. J.—Business building damaged.
East Orange, N. J.—Factory building at 300 North 15th street damaged.
Hoboken, N. J.—Store and tenement buildings at 351, 353 and 355 First street damaged.

KOHLER Electric Plants

...independent electricity for floodlights, power tools, rescue trucks, civil defense

MODEL 1.5M2S, *1500 watts, 115 volt AC. Manual starting. 2500 watt AC portable models also available.*

Volunteer and municipal fire departments use the compact, portable Kohler 1500 watt model for floodlighting at night fires. Also operates pumpers, power tools, smoke eradicators, resuscitators, rescue equipment. Has 4 receptacles, pilot light, double carrying handle. Rubber-tired hand cart available. Other sizes, 500 watts to 35 KW, include stand-by models for sirens, alarm signals, communications, when central station power is cut off.

For civil defense, Kohler automatic stand-by plants safeguard lighting and communications. Portable models supply power for rescue trucks. Write for folder K-8.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

Jersey City, N. J.—Warehouse at Owen's Milling Co. destroyed.
Leonardo, N. J.—Brentwood Hotel destroyed.
Linden, N. J.—Warehouse and office building on site of proposed million dollar Public Service Electric & Gas Co. power plant destroyed.
Long Branch, N. J.—Perry's bowling center destroyed.
Newark, N. J.—John Simmons & Co. damaged.
Newark, N. J.—Ward Motors destroyed.
Perth Amboy, N. J.—Youth Fashion Center destroyed; five other adjacent stores, damaged.
Rutherford, N. J.—M. Rosen Mfg. Co., venetian blinds manufacturer, damaged.
Trenton, N. J.—Merles, Inc., children's clothes and three other firms damaged.
Union City, N. J.—Three-story factory building damaged.
Brooklyn, N. Y.—Teller & Silverman, druggist and dealer in surgical supplies; luncheonette and offices, damaged considerably.
Brooklyn, N. Y.—Buildings 1013-1027 Flatbush avenue, housing Regent Bowling Alleys; Jewel Mart; Jassems, women's clothing shop; Meridee Shop, dealer in ladies' wear; Harolds Juvenile Shoes; Maskin greeting card shop; Saban Gift Shop, Corsetorium, Doyne's Bar & Grill and Katz's furniture store, damaged considerably.
Buffalo, N. Y.—German Roman Catholic Orphans Home destroyed.
East Jewett, N. Y.—Main building of Hideaway Ranch, a resort, destroyed.
Geneva, N. Y.—Vacant barracks at Sampson Air Force Base damaged.
Little Falls, N. Y.—Wishing Well, a bar and grill on Route 5, a mile west, destroyed.
Mill Neck, N. Y.—Showplace mansion of Socialite Harry La Mantagne destroyed. Short circuit.
Oneida, N. Y.—Loblaws Groceteria destroyed.
Pawling, N. Y.—Two barns and silo on Harold S. Wright's dairy farm destroyed.
Poughkeepsie, N. Y.—Phil's Cold Storage Co. plant destroyed.
Sandy Creek, N. Y.—Warehouse-garage belonging to town, destroyed. Defective oil burner.
Savannah, N. Y.—New potato storage and packing plant destroyed.
Snyder, N. Y.—Home of Dr. S. Mouchly Small, psychiatrist, damaged. Explosion.
Stillwater, N. Y.—Hewitt House, a Revolutionary War landmark, destroyed. Overheated oil stove.
Syracuse, N. Y.—Two-story building in Eastwood business section, destroyed; seven stores damaged.
Watervliet, N. Y. — Three apartment-business buildings on Broadway, including a restaurant, cleaning shop, grocery store and radio and television shop, destroyed.
Havelock, N. C. — Building Number 21 at Cherry Point Marine Base destroyed.
Hertford, N. C.—Hertford Grammar School destroyed. Defective wiring.
High Point, N. C.—Universal Television Furniture Manufacturing Co. damaged. Grass fire reached lacquer in spray booth.
Sanford, N. C.—Makepeace Millwork Co. destroyed.
Washington, N. C.—McLellan's store destroyed. Office of Dr. J. Frank Duke also destroyed.
Yarmouth, N. C.—Maba Toy Manufacturing Co. and building housing International Harvester tractor agency, destroyed.
Cleveland, Ohio—Stores and apartments occupied by Brackland Food Center and a vacated barber shop, damaged.
Columbus, Ohio—Gus Grener gasoline station and electric appliance store damaged.
Ironton, Ohio—Filling station operated by C. F. Carty destroyed.
Mentor, Ohio—Moorland China Co. retail store on U. S. Route 20, destroyed.
Toledo, Ohio—Horn Hardware Co. damaged.
Wadsworth, Ohio—Ohio Match Co. plant damaged.
Waterville, Ohio—Horse barn on C. M. Saunders farm, State Route 65, destroyed.
Zanesville, Ohio—Casino Restaurant damaged.
Medford, Ore.—Talent sawmill of John Hamacher damaged.
Prineville, Ore.—Hudspeth Lumber Co. damaged.
Roseburg, Ore.—Yoncalla Hardware Co. warehouse destroyed. Exploding oil stove.
The Dalles, Ore.—River tug Cherokee damaged. Short circuit.
Apollo, Pa.—Radio Station WAVL and printing plant in downtown, destroyed.

Scratch

.....that's where we start from...

right from scratch to give your department a distinctive looking badge. BLACKINTON designers are well experienced in the badge field and will gladly work up sketches of a **custom design** for your department. Just think of the added prestige for your men! There is absolutely no obligation for this extra **BLACKINTON** service.

FORT WORTH FIRE BADGE

One of the finest badge designs in the West. Fort Worth's slogan "Where the West begins" was chosen because the city is located where the cultivated farm lands of East Texas end, and the rolling cattle ranch country of West Texas begins.

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BLACKINTON
V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS

take light... power
... anywhere quickly with
Fairbanks-Morse portable generators!

This 2500-watt AC "grab-it-and-run" generator is the one piece of equipment every fire department needs . . . for illuminating dangerous fire areas, for lighting highway accidents; for power tools and other equipment used on rescue trucks; flood-lighting water rescues and many similar emergencies. This F-M set is ideal for suburban and rural departments which are frequently called upon for service away from high lines. Available in three sizes: 600, 1000 and 2500 watts; manual starting; 115 v., single phase, 60 cycle; 3600 rpm. Net weights: 78, 86 and 138 lb., respectively. For complete information write Fairbanks, Morse & Co., Chicago 5, Ill.

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a name worth remembering when you want the best

WATER SYSTEMS • GENERATING SETS • MOWERS • MAGNETOS
PUMPS • MOTORS • SCALES • DIESEL LOCOMOTIVES AND ENGINES

No. 286

Elkhart Hose Control shown in action with J-200 Mystery Nozzle.

- Will stand alone—on ice, snow, roofs, gravel or concrete—without any whip or back-lash.
- Takes the place of a monitor nozzle.
- Releases manpower for other duties.

ELKHART BRASS MFG. CO., Inc.
ESTABLISHED 1902
ELKHART, INDIANA

Bethlehem, Pa.—Williams Hall, science building at Lehigh University, damaged.

Devault, Pa.—Huge stone crushing plant at a quarry operated by V. Di Francesco & Sons on Route 29, destroyed.

Irwin, Pa.—Building occupied by borough offices and West Penn Power Co. damaged.

Mount Carmel, Pa.—Building housing Weis's supermarket, Knights of Columbus, and Catholic Daughters of America, damaged.

Mount Penn, Pa.—White House Market destroyed.

Phoenixville, Pa. — Slovak-American Citizens Club destroyed. Faulty wiring.

Pittsburgh, Pa.—Building in heart of Squirrel Hill shopping section, occupied by Perl-Reichbaum Grocery, Little Hungary Restaurant, Norman Kanel wholesale jewelry firm, Squirrel Hill News, Morris Beer & Beverage Co., B. X. Klein insurance agency, Spiro Realty Co., dentists' and doctors' offices and apartments, destroyed.

Pittsburgh, Pa.—Produce brokerage firm of Gerber & Caplan and wholesale grocery company of Max Dobkin destroyed.

Pittsburgh, Pa.—Beltzhoover Liederkranz Hall destroyed.

Pittston, Pa.—Air brake repair shop owned by Lehigh Valley Railroad Co. destroyed.

Whitemarsh Township, Pa.—Mansion of Anna A. Brost, damaged. Arson.

Columbia, S. C.—Kimbrell Furniture Building destroyed.

Greenville, S. C.—The Style-Crafters, Inc. plant destroyed; adjoining Union Bay State Chemical Co., Inc., and trim shop and mattress factory damaged.

Lake City, S. C.—Hyman Motors Building destroyed.

Memphis, Tenn.—Two warehouses owned by John A. Denies Sons Co., destroyed; third warehouse damaged.

Savannah, Tenn.—Buildings on public square, occupied by Livingston Jewelry Store, Savannah Cash Grocery, Hitt & Kiddie Photo Studio, destroyed; McDougal Drug Store and Sample Shoe Store, damaged.

Amarillo, Tex.—Pan-Tex Plywood & Lumber Co. destroyed; Davis Motor Freight Lines heavily damaged.

Cleburne, Tex.—Buildings housing Jeffie Wofford Grocery, an insurance agency, a lawyer's office and meat market, destroyed.

Halton City, Tex.—Buddies Supermarket destroyed.

Itaska, Tex.—School-community gymnasium destroyed.

San Benito, Tex.—Alexander Marketing Co. plant damaged.

Burlington, Vt.—Forty boats, a warehouse and lumberyard of Lake Champlain Transportation Co., which owns the warehouse and operates ferries across the lake, destroyed.

Charlottesville, Va.—W. T. Martin Hardware Co. damaged. Adjoining Standard Drug Co. badly damaged.

Harrisonburg, Va.—Douglas Pearce Automobile & Tire Recapping Service, destroyed.

Haysi, Va.—Coal tipple and processing plant at Dickenson Mine destroyed.

Colville, Wash.—Old King Cole Cafe destroyed; the adjoining shops damaged.

Ellensburg, Wash.—Charles Lilly Seed Co. damaged.

Oaksdale, Wash.—Roberts variety store destroyed.

Olympia, Wash.—Starr Variety Stores, Capital Business Machines and Lemays market destroyed.

Tumwater, Wash. — Olympia Bowling Alley, apartments and grocery destroyed.

Bluefield, W. Va.—Warlick Furniture Co. destroyed.

Charleston, W. Va.—IBM branch and Austin Floor Covering Co. store in heart of business district, destroyed.

Martinsburg, W. Va.—Blair Limestone Division of Jones & Laughlin Steel Corp., three miles east on Route 45, destroyed.

Oak Hill, W. Va.—Ace Auto Sales store destroyed. Arson suspected.

Cable, Wis.—Castle Le Namekagon, resort, destroyed.

Milwaukee, Wis.—Three-story, 39-unit brick building, corner of State and Market streets, destroyed.

Park Falls, Wis.—Wenzell's Villa Motel and Restaurant on Highway 13, destroyed.

Superior, Wis.—New York block housing an appliance store, florist's shop, women's apparel shop and apartments, damaged.

Torrington, Wyo.—Potato warehouse destroyed.

Fairbanks, Alaska—Alaska Communications System destroyed.

Juneau, Alaska—Juneau Cold Storage Packing Plant and fish house destroyed.

Creston, B. C.—Creston upholstery, appliance, jewelry stores and apartments, destroyed.

Winnipeg, Man.—Huron and Erie Building in downtown, housing bond dealers, accountants, brokers, lawyers, and other firms, destroyed.

Corner Brook, Nfld.—Garage of West Park Motors destroyed. Gasoline being drained from a car ignited and exploded.

Yarmouth, N. S.—Wholesale grocery warehouse near the Yarmouth-Bar Harbor, Me., ferry terminal, destroyed.

Hamilton, Ont.—Manufacturing building housing West End Engineering Co. and spread to Garwood Heating Co. and Consolidated Glass Co., destroyed.

Ottawa, Ont.—Apartment and office building at corner of Laurier and Friel streets destroyed.

Ottawa, Ont.—Soviet Embassy, overlooking the Rideau River, destroyed. Defective wiring.

Stouffville, Ont.—Gravel processing equipment at Western Sand and Gravel Co. pit, two miles north, destroyed. Overheated pipes.

Toronto, Ont.—Lakeside Paint and Varnish Co. and Drew, Brown Co., Ltd., pharmaceutical manufacturers, destroyed.

Toronto, Ont.—Miller Machinery and Supply Co. and adjacent printing plant of Printing Material Ltd., damaged.

Toronto, Ont.—Between 37 and 40 trucks and a warehouse-type structure, used as a post office delivery depot, destroyed.

Tweed, Ont.—W. T. Hackins Potato Chip plant destroyed. Overheated boiler.

Montreal, Que.—Metals and Alloys, Ltd., foundry destroyed; Kenneth Tool Co., spread to the adjacent A. Belland and Son Tool Co. and nearby dwelling, damaged.

Montreal, Que.—Popular Sportswear Co. factory, spread to the Butler Ladies Sportswear, Ltd., Quick Printing Co., Tobi Fashions, Ltd., and Sol Beitner & Sons, damaged.

Nicolet, Que.—Mother House of Grey Nuns in this south shore St. Lawrence River community, destroyed. Arson.

December Fire Losses

Fire damaged or destroyed an estimated $885,218,000 worth of property in the United States last year (1955), the National Board of Fire Underwriters reported. This is 1.6 per cent more than that for 1954, when estimated monthly losses totaled $870,984,000.

According to Lewis A. Vincent, NBFU's general manager, estimated losses for December (1955) totaled $89,212,000, an increase of 29.7 per cent over losses of $68,784,000 reported for November (1955) and an increase also of 6.4 per cent over losses of $83,881,000 reported for December, 1954.

These estimated insured losses include an allowance for uninsured and unreported losses.

N. B. F. U. Code for Small Communities

The National Board of Fire Underwriters, 85 John Street, New York, N. Y., recently announced the publication of the abbreviated form of the completely revised Golden Anniversary Edition of its recommended National Building Code.

This edition is for those communities that feel their needs can be cared for by a code briefer than the complete edition.

The abbreviated code covers all the items encountered in the usual run of building construction in the smaller communities, providing for other items of construction by reference to the complete edition of the code.

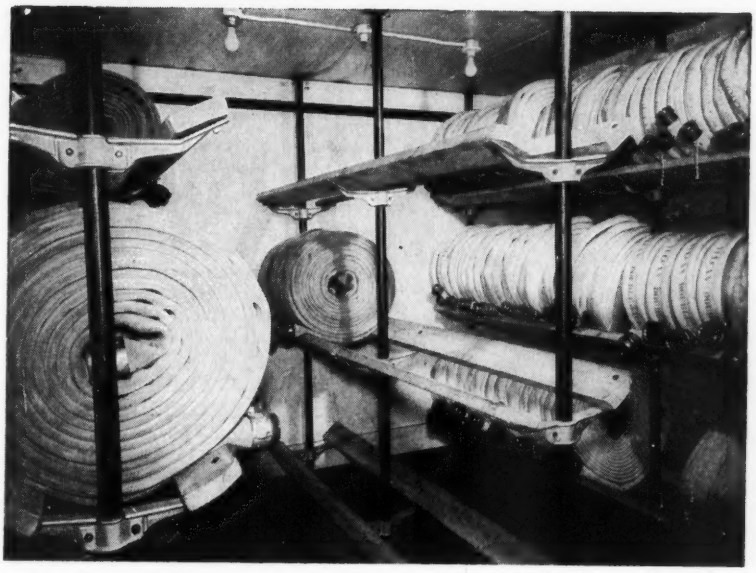
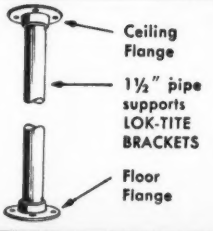


Photo Courtesy Wichita Fire Station No. 1

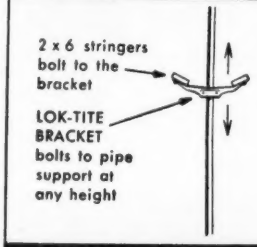
The Solution to Hose Storage Problems

FEATURES

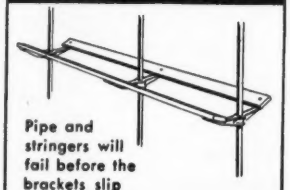
SIMPLE INSTALLATION



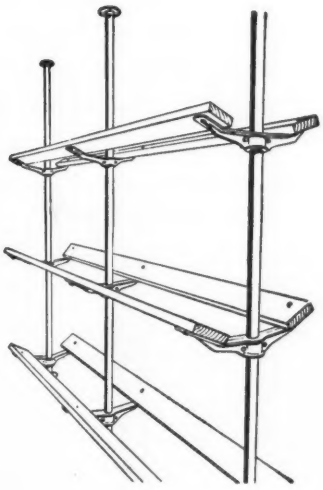
EASY ADJUSTMENT



BIG LOAD SUPPORT



Build Your Own Racks With Lok-Tite Brackets



MIGHTY few station houses have all the room they need for good housekeeping. Lok-Tite brackets help solve the hose storage problem by allowing ample ventilation and access in limited storage space.

Build your own racks with new or used materials. Design your own storage to take full advantage of the space available. Have ample room for fittings inspection and ventilation.

Lok-Tite brackets, light weight aluminum alloy, designed for strength and easy installation.

$3.65 F.O.B. Wichita

W-B MANUFACTURING COMPANY

157 NORTH WACO STREET — WICHITA, KANSAS

Obituaries

Edward H. Siller

Edward H. Siller, former Yonkers, N. Y., Fire Chief, died January 4, 1956, at the age of 73.

Chief Siller retired as head of the department in 1945, after 34 years' service, following serious injuries received at a fire in which two firemen were killed and six injured. Chief Siller climbed up a hose line through flaming wreckage and, although badly burned, directed work of rescuing his men until he collapsed. He received the Department Medal of Honor for his service at this fire. He was also the recipient of several other awards for merit and valor.

Chief Siller joined the Yonkers Fire Department in 1910, was promoted through all grades to assistant chief in 1936, to first assistant in 1939, and to chief in 1942.

During his career he devoted much time to training firemen of Westchester County and surrounding areas, his services being recognized by presentation of many gifts, including an automobile. He helped organize the Fire Chiefs Emergency Plan of that County and served for some years as its treasurer and vice-president. He was a member of the International Association of Fire Chiefs, the Eastern Association of Fire Chiefs, the New York State Association of Fire Chiefs, and numerous other fire service organizations.

Funeral services were attended by large delegations of fire fighters from New York State and Westchester County.

Dan Tierney Dies at 82

Daniel Bernard Tierney, of Arlington, Mass., former president of the International Association of Fire Chiefs, and its secretary-treasurer since 1940, died suddenly at his home on Friday, January 13.

"Dan," as he was known by the fire service from coast to coast, had only returned shortly before from attending the annual meeting of the Board of Directors of the I.A.F.C. in New York City, where he reported on the favorable condition of the Association's finances.

Dan Tierney was appointed to the Arlington Fire Department as a substitute call fireman in August, 1896, and on May 31, 1897, he became the fourth permanent fireman in the department at the munificent salary of nine dollars per week, no days off, no vacation—sprinkling streets in the summer, plowing them in the winter—with horses.

He saw the first motorized fire equipment introduced in 1911, but it was not until 1918 that the department was completely motorized. Four years later, on January 1, 1922, he was appointed a member of the Board of Fire Engineers, and its secretary. On May 1, 1923, he was appointed under the Life Tenure Act as the first permanent fire chief of Arlington and the third chief of department since 1878.

During his regime as head of the Arlington Fire Department, he instituted many improvements. Three of the finest fire stations in the country were erected. He was a pioneer in the annual inspection of the cellars of all residences of his city. In December, 1946, he started the block system of inspections, whereby a piece of fire apparatus equipped with two-way radio and its full crew inspects every building and occupancy in the district it protects, twice a month.

The INVINCIBLE NOZZLE

GET THE BEST—SPECIFY THE "INVINCIBLE NOZZLE." BUILT BY THE PIONEERS OF DELUGE NOZZLES.

2000 GPM NOZZLES ARE NOT THE LARGEST CAPACITY MADE.

THE "INVINCIBLE NOZZLE" IS MANUFACTURED IN 100 GPM TO 10,000 GPM CAPACITIES.

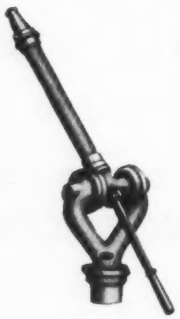
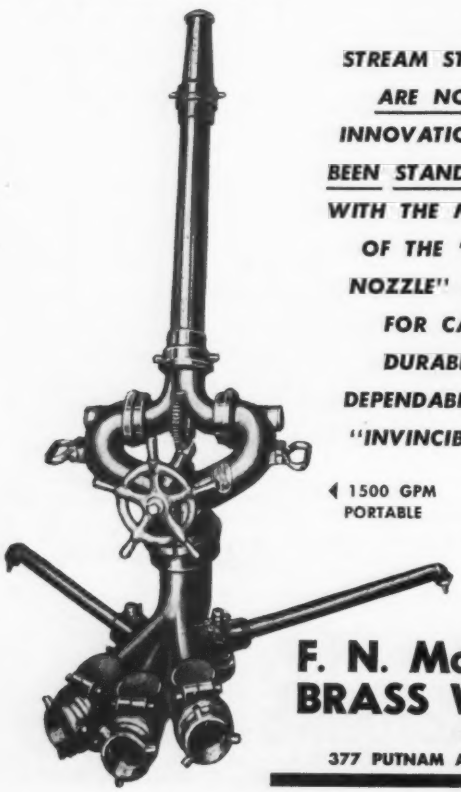


Fig. 2

Fig. 3



STREAM STRAIGHTENERS ARE NOT A NEW INNOVATION BUT HAVE BEEN STANDARD PRACTICE WITH THE MANUFACTURER OF THE "INVINCIBLE NOZZLE" SINCE 1882. FOR CAPABILITY, DURABILITY AND DEPENDABILITY USE THE "INVINCIBLE NOZZLE."

◀ 1500 GPM PORTABLE

Fig. 4 With Base

Send for Catalog

F. N. McINTIRE BRASS WORKS, INC.

1837 — 1956

377 PUTNAM AVE., CAMBRIDGE 39, MASS.

In September, 1933, the first firemen's training school in Massachusetts opened in Arlington under the auspices of the Vocational Division of the State Department of Education. Several hundred firemen from all of Middlesex County received diplomas from these classes, which continued to the beginning of World War II.

Chief Tierney was long an active, energetic leader in the nation's fire service. He served as president of the New England Association of Fire Chiefs in 1934 and, three years later, as president of the International Association of Fire Chiefs. He also served as president of the Massachusetts Fire Chiefs Club. In 1940 he was named secretary-treasurer of the I.A.F.C., which post he held until his death.

He approached his Association responsibilities with the same fervor and devotion that he exhibited in building up the Arlington Fire Department, from which he retired on April 22, 1948. He conceived and established the Committee on Cooperation with the National Board of Fire Underwriters; he instituted Sustaining Members in the I.A.F.C. (now 34 in number) and for many years he was responsible for the Association's Book of Proceedings.

The Chief's funeral services were attended by large delegations of fire officials and municipal authorities from throughout New England.

He is survived by his widow, Kate, who was a familiar figure alongside him at the many meetings they attended.

Chief George E. McGaw

Fire Chief George E. McGaw, 63, of the Fall River, Mass., Fire Department died on November 25th after a heart attack.

Chief McGaw headed the department for the past fifteen years and had nearly 40 years experience as a fire fighter. He joined the Fall River Fire Department as a reserve man in 1916; was given permanent status in 1917; won promotion to lieutenant in 1925 and became captain six years later. In 1937 he was named deputy chief and, ten years later, advanced to assistant chief. He succeeded the late Dennis D. Holmes as chief in 1940.

During his services as chief, his abilities were severely tested at the $12 million Firestone rubber storage fire on October 11, 1941. He was a member of the Massachusetts Fire Chiefs Club, the Fall River Permanent Firemen's Relief Association and at one time, a director in the New England Association of Fire Chiefs.

Chief A. W. Fisher

Chief Albert W. Fisher, 60, a veteran fireman of over 35 years and head of the Johnstown, Pa., Fire Department since 1951, died in his sleep in December.

Chief Fisher joined the department in 1916, served two years in World War I, then resumed his career as fireman in 1920. He was made lieutenant in 1930, captain in 1933; assistant chief in 1950 and promoted Chief in 1951.

INDUSTRIAL RADIO

2-WAY RADIO

Smaller, Lighter, More Powerful Equipment for all Fire Department Radio Communications

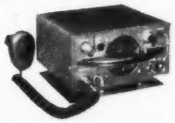
Actual demonstrations prove that pound-for-pound and size-for-size, PAK-FONES offer more reliable communications than other equipment made for fire department use. Many village radio systems are composed entirely of PAK-FONES. This superior performance is the result of the latest Heimark design and efficient circuits.

UNIVERSAL PORTABLE UNIT

The Model A PAK-FONE has self-contained batteries, may be operated from a storage battery in a vehicle, or plugged into 117 VAC house circuit. Built-in power supply and loudspeaker.

FOR THE CHIEF

A personal 2-way radio, no larger than a camera. With it, the chief can direct operations from within a burning building. Unit is protected by a heavy leather case. Waterproof handset. FIELDFONE Model FF.



Vehicle and Base Station PAK-FONE

The Model J is the smallest complete 2-way radio for vehicle or base station use. It measures only 10" W x 9" D x 5" H. Operates from 6, 12, 24 volt systems and 117 volts A.C. Built-in loudspeaker and power supply. Minimum installation. Can be removed from vehicle in less than 1 minute.

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WATER when and where you want it!

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ON THE JOB - ON THE SPOT KEEPING AMERICA GREEN

THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

EXCLUSIVE FEATURES

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Available in 150 & 300 gallon sizes

A WATER SUPPLY AT THE SCENE OF THE FIRE

Write TODAY for Full Information and Price List

HARODIKES INCORPORATED

NORTH DIGHTON, MASSACHUSETTS

Persons in the News

William Miller Named Los Angeles Fire Chief

William L. Miller is the new Chief Engineer of the Los Angeles Fire Department.

Chief Miller succeeds Frank H. Rothermel who retired after holding the chief engineer's job for several weeks on a temporary basis when the city's board of fire commissioners suspended Chief Engineer John H. Alderson.

Appointment of Chief Miller marks the start of a new phase in the sharp two-year battle instigated by outside political and minority pressure groups to force complete racial integration in the department.

Chief Miller, formerly was First Assistant Chief Engineer, in charge of the Fire Prevention Bureau. He is 49 and comes to the $15,500 yearly job after more than 22 years in the department. Pay raises expected for departmental heads in the Los Angeles city government would make Chief Miller the world's highest paid fire chief.

Chief Miller's selection did not come as any surprise to departmental observers. He placed first in a recent Civil Service Examination for the post vacated by Chief Alderson shortly before Christmas. Assistant Chiefs Raymond M. Hill, Carl N. Carter and Marvin Meador placed second, third and fourth respectively. The fire commission could have selected any one of the top three certified to them by the Civil Service.

Chief Miller touched upon the racial integration battle boiling in the department for two years when he read a statement to newsmen following his selection by the commissioners.

"All large organizations, whether they be private organizations or city departments, have many problems," Chief Miller's statement said. "We have the immediate problem of preparing a budget for the coming year. All other problems, including the assignment of personnel, will be reviewed, studied and solved.

"The solution of any problem is not helped by the display of emotions or hot tempers. Outside interference by pressure groups or individuals, however sincere their interests may be, will hurt rather than help in solving such problems."

Elaborating upon his statement for newsmen, Chief Miller said the integration problem, "needs some study. It's going to take time to effect it in the proper way. The situation presents some very delicate demands which need careful handling."

While local information media have tended to give the impression that the integration problem was automatically resolved by Chief Alderson's dismissal, departmental observers feel the issue is far from settled.

Chief Miller, together with retiring Chief Rothermel have been in virtual agreement with Chief Alderson on the course he followed. The same course brought about the loss to the citizens of Los Angeles of an administrator whose efforts built the LAFD to a position of second to none in the world.

Chief Alderson, who completed more than 32 years of service with the LAFD, will draw a pension amounting to $10,333.32 a year for life. He received the news of Chief Miller's appointment while undergoing hospital treatment for

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a recurring gall bladder ailment.

Chief Rothermel, 66, who did not take the examination for chief engineer, was known to have remained on the job long after he became eligible for retirement out of loyalty for Chief Alderson.

G. William Shea, commission president and one of Chief Alderson's protagonists, termed Chief Rothermel's retirement, "a tremendous loss to the department." Commissioners presented him with a two-foot-high trophy topped by a gold figure of a fireman and an embossed copy of a resolution praising him for his more than 43 years of service to the city.

Chief Miller was born January 31, 1906, of Scotch-Irish parentage. He came to Los Angeles in 1928 and was appointed to the LAFD June 1, 1933. He made captain on April 16, 1942, was promoted to battalion chief Oct. 1, 1948 and First Assistant Chief Engineer on July 1, 1954.

Chief Miller saw active duty as a Navy damage control officer during World War II and holds the rank of lieutenant commander in the inactive reserve. He is a member of the International Association of Fire Chiefs, the Pacific Intermountain Association of Fire Chiefs, the National Fire Protection Association, and the Pacific Coast Building Officials.

Paul C. Ditzel

Sullivan 40 Years with Montana Bureau

On January 2, 1956, Frank J. Sullivan of Butte, Mont., observed his 40th anniversary with the Montana Fire Bureau and, previously, the Board of Fire Underwriters of the Pacific. His many friends in the fire service are wishing him another and equally happy 40 years of service.

Eisert New Logansport Chief

John R. Eisert was promoted to Chief of the Logansport, Ind., Fire Department effective January 1, 1956.

He succeeds Joseph Graffis, who headed the department for the last 17 years.

L.A.C.F.D. Appoints Public Information Officer

Appointment of Robert C. Singleton as Public Information Officer of the Los Angeles County Fire Department, effective January 1, 1956, was announced by Chief Keith E. Klinger recently.

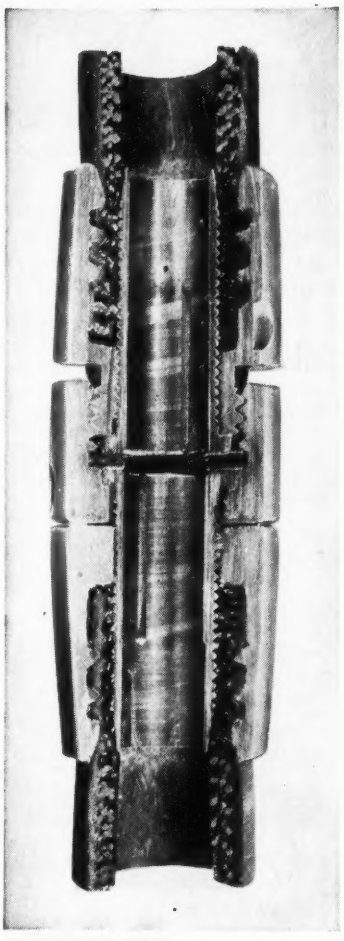
Singleton, formerly Special Assistant to Chief Klinger, has served in various administrative capacities with the department and has been in charge of its progressive public relations program.

—Cliff Dektar

Chief Collette Retires

Chief Herman N. Collette, of the Hudson, Mass., Fire Department, retired November 27.

The chief entered the department in 1929 as a private; he was promoted to



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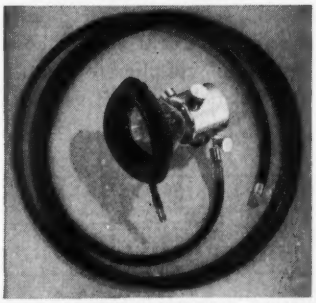

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deputy chief in November, 1937, and on October 16, 1952, was raised to chief. His original appointment and subsequent promotions were all made under civil service rules, the Town of Hudson being the first small town in the state to adopt civil service, which it did in 1916. Department personnel consists of eleven permanent and twenty-five call men, manning six pieces of apparatus.

Henry T. Hanson

G. F. Vernotzy to Succeed Father as Chief

Gerald F. Vernotzy is expected to become chief of the Akron, Ohio, Fire Department upon the retirement of his father, Chief Frank C. Vernotzy.

Gerald headed the eligible list, which is good for two years, and the chief must retire within a year and a half. He will be 70 in April, 1957.

Frank C. Vernotzy joined the fire department September 4, 1909, and became its chief on September 1, 1942. His son was born in 1906, joined the department, February 15, 1931, became a district chief in March, 1949, and assistant chief in August, 1952.

Francis Wornall Resigns Post

Francis (Brick) Wornall, director of fire, Kansas City, Mo. Fire Department since 1940, resigned his post, effective Feb. 1, 1956, to devote his full time to business.

During his regime, the fire department reached a high peak of efficiency through introduction of the merit system, establishment of a personnel division; a renewed and continuing training program; replacement of obsolete equipment and other innovations.

'Brick' Wornall was appointed May 20, 1940. He is an insurance broker, affiliated with R. B. Jones & Sons. He has been active in promoting firemanship training, with emphasis on water-fog applications.

Wayside Inn

Continued from page 127

local distributors of propane gas provided a newly developed infra red ray heating device, which was designed for use on outside construction work, but proved an excellent means of thawing the heavy ice encrustation from apparatus and equipment.

Building lacked fire stops

Although no expense had been spared in the restoration and additions to the building in 1923, no consideration seemed to have been given to fire detection, or prevention of fire extension. There were no ordinances controlling building construction or wiring at that time; the building had no fire stops or fire walls. Defective electrical wiring has been determined as the most likely cause of the fire.

Although it at first appeared that the entire contents of the building were a total loss, overhaul operations disclosed that many valuable pieces were salvageable, including such items as the grandfather clock of which Longfellow wrote, the violins of composer Ole Bull and the Lafayette bed. *Henry T. Hanson*

Overhaul and Salvage

Continued from page 132

ous types of portable fire extinguishers and their use and maintenance.

6. Instruction in use of inside standpipes, hose connections and "house lines."

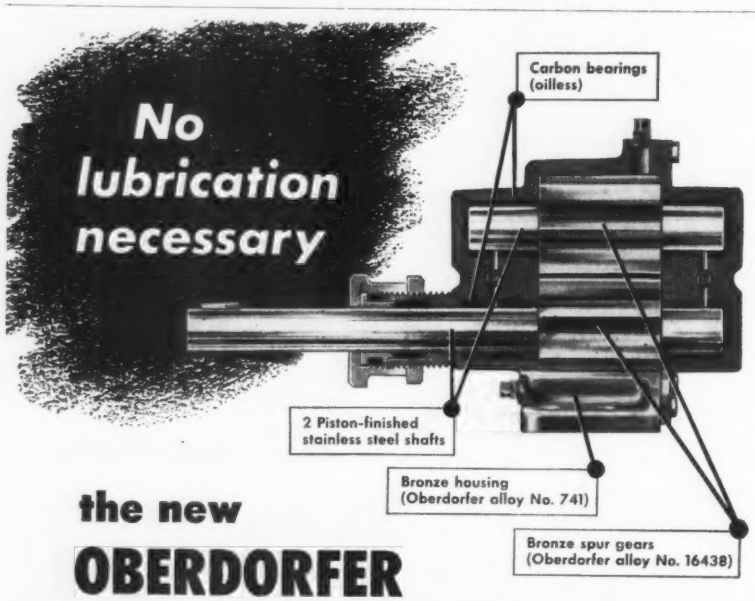
7. General instructions and drill in handling of fire streams; hose line practices; use of fittings and nozzles of all types with particular reference to water discharge and effect on fire and occupancy and structure.

8. Drill and instruction in fire department knots.

9. Drill and instruction in raising of ladders (with particular reference to short, portable and collapsible types) for interior salvage operations.

10. Fundamentals of ventilation and its importance in furthering efficient overhaul and salvage.

11. Discipline, teamwork and courtesy in salvage.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PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

12. Fire watch duties; questions of rekindle; cooperation with police and fire departments, etc.

Advanced Instruction and Training

1. Arson and its relation to the salvageman.

2. Advanced theories and practices in fire control and extinguishment: Use of wetting agents, chemical extinguishing agents, water fog, fog-foam, etc., as related to salvage reclamation, etc.

3. Studies of the factors of (a) removability; (b) combustibility and (c) damageability.

4. Smoke and odor removal.

5. Use of respiratory protective equipment.

6. Advanced first aid and artificial respiration.

7. Modern communications in use by fire patrols and fire departments; namely, radio, voice amplification, recording, facsimile, etc.

8. Problems of large scale salvaging in peacetime and wartime disasters; protection of surplus stocks, etc.

9. Principles of modern fire inspection: Use of radio, cooperation with fire forces and municipal agencies.

10. Problems of loss adjustment and claims.

Summary

Fire chiefs who have given the matter thought generally agree on: (1) Any fire department that wants to make the best possible showing in reducing its local fire losses must practice salvage.

2. The better the department's knowledge of, and experience with, the subject, the more efficient will be its salvage operations—and the more pronounced the savings in the destruction of property.

3. Having the requisite facilities for efficient salvage operations is important, but it is even more important to have the personnel who will perform salvage, thoroughly trained in their duties.

4. Every fire department must work out its own salvation insofar as organizing and maintaining the salvage squad, company or corps, and that includes the problems of training for salvage. □□

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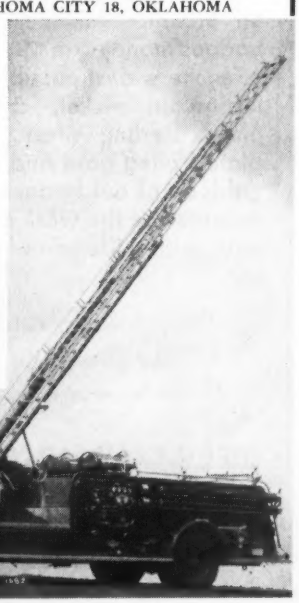

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the round table

discussion of current fire department and fire management problems

Closed or Open Fire Apparatus

THIS IS THE SECOND installment of the Round Table on closed vs. open fire apparatus.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to the March issue as well. The editors will welcome any additional comments on the subject. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

Discussion of the Subject

Willard G. Compton, Chief, Springfield, Ohio: We have cabs on all but three pieces of apparatus which house officers and drivers plus two to five men. The other three have cabs which accommodate officers and one man and the balance of the men ride on the rear step or side. Our records reveal that men within an enclosure have never been seriously injured.

All injuries to personnel while responding to an alarm have been to the men riding on the outside of a cab and thrown from the apparatus onto the street.

Although we have no records, we feel that the enclosed cab has resulted in a large reduction in time-off due to colds and exposure.

We enjoy a small percentage of accidents and feel that the enclosed cabs are certainly no hindrance to driving efficiency. We started a program of enclosed cabs on apparatus in 1937 and in 1952 completed the program. Nothing but reserve apparatus is open at the present time.

Cabs or lack of cabs do not figure in our accidents.

We have some aerial operators who complain of difficulties in spotting the aerial due to the enclosed cab. This could be remedied by requiring a Plexiglas roof in the cab.

G. L. Nalley, Chief, Little Rock, Ark.: Our injury record as well as the accident record has almost been nil since the purchase of semi-enclosed cabs in 1945. We have not had any serious accidents with our apparatus to prove either type.

We have found that our absentee list has been greatly reduced.

Even though there has been a marked increase in traffic in our city in the past few years, our records reveal that we do not have as many accidents with the semi- and full-enclosed apparatus as we were having when we had open apparatus.

Our apparatus operators advise that no difficulty is encountered with our cab-over-engine type of apparatus, with reference to visibility, spotting, etc.

We have an almost unblemished record with reference to accident reports for the past five years and realize that it may be an unusual record. Safety is stressed at all times and we also realize that we are indeed fortunate with reference to damage to fire apparatus involved in accidents.

With practically all our equipment classed as cab-in-front-of-engine, it is reasonable to believe that the reduced accident reports have been obtained by the use of this type of equipment.

J. L. Stevenson, Chief, Stockton, Cal.: Of twelve pieces of apparatus in this department, only two are equipped with cabs (for driver and officer).

We have not attempted to keep records on the specific questions you have posed, but our accident frequency has been so low that they would have been of little value.

Ralph K. McLavry, Chief, St. Joseph, Mo.: At the present time we have only two enclosed cab trucks on the department, and we have not had them too

THIS MONTH'S QUESTIONS

What do your records show regarding accidents and resultant injuries to personnel on fire department apparatus equipped with (a) enclosed cab for chauffeurs and members as against (b) enclosed cab for chauffer and officer only?

Is personnel injury frequency greater when members ride the side running board or rear step (than when inside cab or body of apparatus)?

Have you noticed any difference in sick leaves between men who ride open apparatus and those who ride units provided with cabs?

How do closed cab apparatus compare with open apparatus from the standpoint of accident frequency?

Have you noticed any difference in (a) accidents and (b) operational difficulties such as visibility, spotting, etc., between cab-over-engine and other types?

long. To date, no member has received any injury from or on these trucks.

The trucks were bought for answering fire alarms in the rural areas and for the protection of the members from the elements while going and returning from alarms.

We operate ten pumpers, one service truck, one aerial truck and one water tower. They are all open except the two units mentioned above, and we don't notice any sickness resulting from either. Our sick leaves have been few in number. Personally we prefer the semi-cab, of which type all of our newer units are. Eight of our trucks are comparatively new, within the last three years. Five are only eight months old. We have had no accidents in the last ten years.

Visibility on semi-cabs is perfect in our estimation.

Harry J. Sommers, Chief, Newark, N. J.: There are only two pieces with cabs in our department, as against forty-five without cabs.

I will say, however, that our men do not favor closed cab apparatus, and have expressed themselves along this line.

C. C. Styron, Chief, Atlanta, Ga.: We have five new 500-gallon pumpers with closed cabs for the driver and officer. All other apparatus have open cabs. We have not had sufficient experience to make a comparison between the two types.

R. Swanborough, Chief, Hamilton, Ont.: We have no accidents with either type of closed cab.

Personally, I prefer open cabs downtown in small districts and cab jobs for long runs in rural areas.

Frank F. Schroeder, Chief, Everett, Wash.: We have only the single seat enclosed cab for driver and officer.

Our records indicate that members riding on the outside of apparatus are in more jeopardy of being injured than those in cab.

We have no record of possible difference in sick leave between open and closed apparatus. However, our climate being quite moderate would cause me to believe that if there were a difference, it would be slight.

Our records show less accidents for miles covered in open apparatus.

Frank S. Sandeman, Chief, Long Beach, Calif.: No records indicating comparison of number of accidents and resulting injuries to personnel have been kept. All of our 19 pumping engines, excepting one with two-man cab, are equipped with a six-man enclosed cab for the entire crew. This excludes aerial trucks which, we believe, are better adapted to maneuverability without an enclosed cab, but the entire crew, with exception of tillerman, ride back to back in compartmented area. No men ride on sides of ladder trucks or on back step of pumpers. This is a department order.

Personnel injury is more frequent when members ride the side running board or rear step. A serious accident involving two pieces of our apparatus (an aerial truck and a squad truck collided

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on April 18, 1951) resulted in the killing of one man and permanently injuring another. Both the fatality and permanent injury were the result of both of these men riding the back step of the squad and being thrown as a result of centrifugal force created when the squad skidded and slid around. We believe that if the squad had been equipped with a cab for entire crew, no fatality and perhaps no permanent injury would have occurred. Two men riding in compartmented area on ladder truck suffered only superficial injuries. Since the accident, the squad has been rebuilt and seats provided for two men who ride back to back facing outward, back of two-man cab and inside frame area.

We have no records, but we believe sick-leave incidence has decreased considerably.

It is our opinion that operation of apparatus with closed cabs compares favorably with that of closed cab operation of trucks and buses. With a windshield only protecting the driver from rain, snow or sleet which gathers on both sides of the windshield, wipers therefore must be provided on both sides of windshield. No protection is offered the driver from rain or foreign obstacles hitting him from above or from a slanted direction. Anything that detracts from the business of driving an apparatus is a hazard to the lives of the other members of the crew dependent upon his ability to efficiently perform his assigned duties. When serious injuries have occurred in this department due to collisions or other reasons, they usually occur to the men riding the back step. Cabs also offer the ultimate in protection from exposure to colds and other like ailments suffered during return to quarters.

We do not use cab-over-engine type of apparatus. We use soft suction hook-ups which permit more flexibility in spotting at hydrants. Hard suctions are used only for drafting or where capacity and pressure is below that recommended for soft suction adaptation. No other operational difficulties have been experienced by the use of closed cab apparatus. Doors are hinged from the front to prevent injury and facilitate hose laying operations. As we have used cab apparatus for many years, our hose evolutions are more or less planned for cab operation. We believe that the Long Beach Fire Department was among the first to pioneer the use of completely enclosed cabs for fire apparatus. Our first piece of apparatus of this type dates back to 1939. We favor the four-door fully enclosed type of cab, rather than the canopy type with walkway down the middle of hose bed for exit purposes. Men may utilize two doors at one time and step off rig facing direction of travel. This also gives greater hose carrying capacity without increasing height of hose bed.

J. D. Foote, Chief, Ottawa, Ont.: We have no records of men having been injured where the cab protection would have any effect. For example, men on the rear who might be injured would not have been protected or exposed regardless of the cab type.

Our members ride on rear or side always, regardless of cab type. While we may have a type of cab suitable to enclose more than the driver and officer, the men still ride outside the cab.

Our drivers are usually steady drivers.

Our motor accidents, to my knowledge, have not been affected by the type of cab.

Ray Tiller, Chief, Waterloo, Iowa: All apparatus purchased in the City of Waterloo since 1936 has been equipped with cabs. Furthermore, our apparatus is equipped with five-man cabs, and we have no accidents resulting in an injury to personnel on the fire department on this type of apparatus.

In my opinion, there is a much greater chance for injury to fire department members riding on the side running boards or rear steps than when inside the cab or body of the apparatus. The only severe injury that we have had for men riding on fire equipment was to men riding on the steps who were thrown off, resulting from an accident involving the apparatus.

We have noticed no particular difference in sick leave. As stated above, our men for the past several years have been riding in the cabs, especially returning from fires when the weather is wet and cold.

We have had no accidents with closed cab apparatus, due to poor visibility. But we have had an accident with the

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open type apparatus in a bad rain storm.

We do have apparatus with the cab ahead of the engine, and we find that the visibility is much better, and for that reason, believe that it has cut down our accidents running to fires as we have had no accident of any consequence with this type of apparatus. Further, we have had no difficulty whatsoever with visibility when spotting this apparatus.

Wayne E. Swanson, Chief, Rockford, Ill.: The records of our department reveal no accidents resulting in injuries to personnel assigned to apparatus equipped with an enclosed cab.

We have a rule within our department that no fireman shall ride the sides of apparatus except hook and ladder equipment. I am of the opinion that whether you are riding inside or on the tail board makes no difference.

Although we cannot pinpoint the difference in sick leaves between men who ride open apparatus and those who ride closed cabs, I am of the opinion that closed cabs definitely keep firemen warmer when riding from fires in cold weather. From experience I have found it is more comfortable to ride in a closed cab than in an open fire truck, when returning from a fire all wet and cold.

We haven't noticed any difference in accident frequency in open apparatus vs. closed cabs, but it is definitely a known fact that open apparatus gives you better vision. This is one of the things that fire truck manufacturers could improve upon in the manufacturing of closed cabs.

All our engine companies are closed cabs and our hook and ladder trucks are all open cabs, and they are open because of vision and easy spotting for the raising of aerial ladders.

W. A. Dunham, Chief, Spokane, Wash.: While most of our apparatus have cabs, we are just now putting into service our first apparatus equipped with cab for all crew members. We feel this to be safer and more satisfactory.

Our records show that some of our most serious injuries have been to men outside of cab or driver's seat.

Records on the difference in sick leaves between men who ride both types of apparatus do not give much comparison. We feel, however, that cabs have some bearing due to the fact that they are protection from bad weather.

We believe the cabs are safer, because of better driving conditions.

Our aerials do not have cabs, as we feel there is more difficulty in spotting with a cab-type truck. We believe, however, the visibility is greater with the non-cab aerial.

John A. Laughlin, Chief, East Providence, R. I.: As we have no fully enclosed cabs in this department, I do not feel I can contribute much to this discussion. We do have some semi-enclosed cabs, but our records show nothing in regard to illness or injury where any cab was a contributing cause. However, I have had a feeling for some years that I would like to try the fully enclosed cab for the protection of the men.

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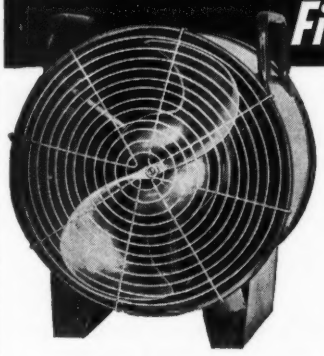

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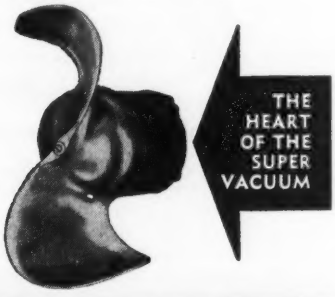

● The secret of Super Vacuum is the patented fan blade. Conventional fans chop the air and push it back. Whereas the Super Vacuum fan blade is a perfect spiral air screw which creates a partial vacuum, suction is created over the entire face of the blade and the air or smoke is discharged in a high velocity spiral. There are no dead spots—that is why Super Vacuum outperforms other fans twice its size.

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Among the Buffs

By Paul C. Ditzel

IT'S A FEW DAYS after Christmas, now, the tree has come down, Denise's toys are nearly all broken and the cards strung across our fireplace are off their cord. And the bills, those persistent bills.

Which is as good a time as any—as Spring robins appear by the time you read this—to acknowledge an unusually high number of Christmas cards from buffs and fan organizations. As usual, many of them show uniqueness and I wish I had the space to share the pictures and drawings I received with you.

Cards were received from:

Geoffrey F. D. Pratt of Dorking, England; Fred Shepperd, Roi B. Woolley, the Box 113 Club, 2607 Bender St., RFD 2, Pontiac, Mich.; Joe Hallett; Tom and Martha Jewett and their firedog, Buff; the Box 54 Club, Teaneck, N. J.; Gene and Marge Chapman of the Box 35 Volunteer Fire Club; Grace, Willard and Tom Swanson (the middle Swanson is with American LaFrance).

Also, the Box 414 Association, Inc., 423 N. Gay St., Baltimore 2, Md., John Lee Turner, Secretary of the Friendship Fire Association; Arthur (Smokestack) Hardy, 615 N. Carrollton Ave., Baltimore 17, Md., W. A. McDonnell, Edward R. Tufts and that gallopin' fan of the Philadelphia brigade: Jack Robrecht and his patient wife, Betty.

If I had to single out—which I don't, but will do anyway—the most impressive card, it would have to be the one sent by our good friend Geoffrey F. D. Pratt. Geoffrey's card shows a drawing of the Gateway to St. James's (cq) Palace. The drawing is by Geoffrey Pratt, himself, a talent he's been too modest to mention.

You probably read in the papers about London's recent major fire in the Admiralty Offices in Whitehall. The latest issue of Geoffrey's excellent British journal, "Fire Protection Review," carries an account of the blaze.

For the interest of many buffs who have toured the London Fire Brigade and its facilities, I might mention a few of the highlights of the Admiralty fire. The blaze smouldered for several hours before discovery shortly prior to 3 a.m., when it broke through the roof. The LFB received the call at 2:45 and the alarm had to be verified. The first makeup was at 2:52.

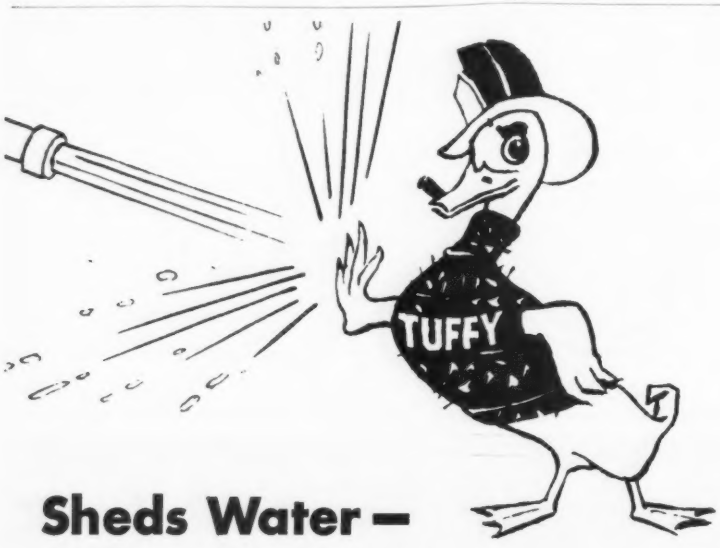
"Four of the six attending turntable ladders were used as water towers," said the magazine. "Other machines on the ground were 20 pumps, six pump escapes and two emergency tenders. About 120 men, commanded by Chief Officer F. W. Delve (a good friend of this column) were in action. Jets in use totalled 23."

For those of you who occasionally write to ask for information on *Fire Protection Review*, I might add that a year's subscription, which includes a magnificent yearbook, sells for $2.85. The magazine's address is care of Benn Brothers, Ltd., Bouverie House, Fleet-Street, London, E.C.4, England. Direct your subscriptions to Geoffrey.

Letter from Ace Buff Tom Magner contains a clipping from the Bridgeport, Conn., *Sunday Herald* in regard to the shame of Los Angeles, namely the loss of Chief John Alderson as head of the LAFD. Even from their perch, thousands of miles away, this paper is able to see how politics and outside pressure lobbyists have forced the retirement of one of the most brilliant men in this nation's fire service. Too bad the Los Angeles papers haven't the same courage as those in Bridgeport.

Owen Carrigan, 104 Ronald Road, Arlington 74, Mass., who is 13 and a spark, says he'd like to start a collection of firemania and would appreciate any information on how to obtain an aluminum helmet, regulation style. This column, being fresh out of information on aluminum helmets, regulation style, throws the matter out to the floor for debate and any takers. Owen says he reads FIRE ENGINEERING from cover to cover (even this column?) via the Rev. Charles McCarthy, Roman Catholic Chaplain of the Arlington Fire Department.

The Box 52 Association of Boston, Mass., sends me their regular news letters. A recent one contained a rundown on Boston's fifth alarm record since January 1, 1900. The survey was prepared by the club's Elmer Gane. Other incidental information gleaned from another news letter is this one:



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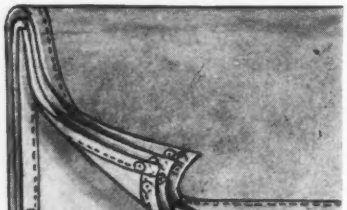

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"The fire which destroyed the City Hall in Springfield, Mass., on January 6, 1905, was caused by a monkey who tipped over a kerosene lamp onto a hot stove in an adjoining building."

First came Mrs. O'Leary's cow and now Springfield's monkey. Any further information will be released to readers of this column immediately upon receipt of same. Our goal remains: to keep the buffs as well informed as possible on such significant topics.

In line with that, I submit another item purloined from the same source. Seems the Boston Fire Department is going to lower the dam boom the next time a severe oil fire starts floating on troubled harbor waters:

"A new type of emergency oil boom, the only one of its kind in the world, recently was installed across the mouth of the Chelsea River to protect Boston harbor facilities and vessels from fire in the event heavy oil concentrations are ignited. . . .

"Controlled by the Boston Fire Department, the boom when used becomes a floating dam. The apparatus consists of two 400 foot long steel booms constructed in 44 foot sections with universal joints connecting each section, so that the booms may move both vertically as well as horizontally.

"In the event of ignition of floating oil deposits on the river surface, the booms are dropped on the water where they float on the surface and contain the flames within the river confines. The boom was designed by George Wey, chief engineer for the Port of Boston Commission."

Not having the slightest bit of ingenuity to top that story, I'll end the sermon for another four weeks. If you can beat any of these stories, send them on to me at 419 Napoleon Street, Playa del Rey, Calif.

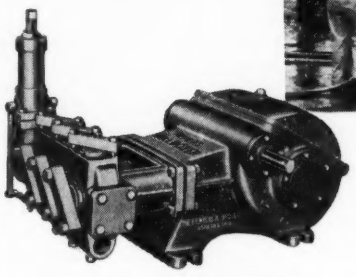
Book Shelf

RADIATION HAZARDS IN FIRE FIGHTING. *Safety and Fire Protection Technical Bulletin No. 4, U. S. Atomic Energy Commission, Washington, D. C.; 34 pages and cover. For sale by Superintendent of Documents, U. S. Government Printing Office, Washington 24, D. C.; 35¢.*

The book is written for fire fighters and contains a foreword by Frank L. Brannigan, Safety and Fire Protection Branch, AEC. "Radiation," explains Mr. Brannigan, "should be neither feared nor ignored, but should be regarded as another hazard to be taken in stride as a result of education and understanding.

The contents comprise sixteen brief chapters, including an introduction and bibliography. It describes radiation in general; external and internal radiation; pre-fire planning; radiation machinery; isotope laboratories and shipments; uranium metal; fissionable materials; transportation fires; filters; atomic energy for power; flammable solvents and strippable coatings.

If it's fog you need...



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For cleaner, longer-lasting fire hose

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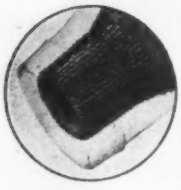

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THE WATCH DESK

overhauling the firemanic news of the day

Title Where It Belongs

Title to an old but proud pumper, not quite venerable enough to become a museum piece, but symbol of the days of the thundering hoof-beats when the prized Percherons of Walla Walla, Wash., hauled the engines to the fire, has been returned by the city fathers to the fire department.

By this act, the commission approved a resolution presented by Commissioner of Streets W. J. Russell reading, in part:

"Whereas there is now in possession of the City of Walla Walla, Wash. . . . a Metropolitan Steam Fire Engine, Serial No. 3098 manufactured by the American Fire Engine Company (parent company of American La France) at Cincinnati, Ohio. This engine was . . . put in service by the Walla Walla Fire Department on or about 1906 A. D. and is presently located at Fire Station No. 1 . . . and whereas there is little or no service value in this fire engine but it may have some value as a display piece and souvenir to the Fire Department . . . and whereas there has been some dispute in the past as to which City Department has jurisdiction over this engine. . . .

"Now, therefore let it be resolved: In order to clear any disputes past, present or future, regarding this Fire Engine, that all rights, titles and interests be hereafter vested in the Fire Department of the City of Walla Walla, Washington."

Back from the ignominity of siphoning cellars, wetting down dumps as a tool of another and unromantic department has come old No. 3098. Now, whatever use she, or he, or it, may find whether at the forefront of a Fire Prevention Week parade, or as the venerable and dramatic relic of the days of iron men, it will be as a proud possession of the fire fighters, whose antecedents manned and operated the grand old relic.

Bad Night for Savannah Brothers

Savannah, Ga., police and firemen had their hands full the night of Nov. 25 last, when some 6000 to 7000 students, adults and spectators gathered together to whoop it up in the heart of the city, after the annual Savannah High-Benedictine football game.

It wasn't just a case of yanking the goal posts out by the roots, and doing a snake dance through the town; it was a riot—plus.

The disturbance centered around Savannah's main intersection where victors in the annual crosstown football rivalry traditionally burn the "coffin" of the losers.

Savannah won the game 9-6 and the mob swarmed to light the coffin. They did so, then police, who were about as futile as a stirrup pump at a conflagration, called firemen to douse the blaze before it damaged the pavement.

That did it. Soon after the Brothers arrived, dozens in the crowd set upon the hose, fire extinguishers and other fire equipment. Even the firemen themselves got a pushing around. At the height of the melee, the mob tried unsuccessfully to overturn two fire chiefs' automobiles and a patrol wagon.

Police finally fired a tear gas bomb into the mob but not until six of their members had been injured and hundreds of dollars worth of fire fighting equipment destroyed. Several persons were arrested for disorderly conduct.

The fire, the firemen, and not a few of the mob, were doused. Altogether, it was a night to be remembered—like a bad dream!

Party-Line Phone Hogs Blamed for Baby's Death

Here's another case of 'hogs' who refused to get off a party phone line: This one—although it did not involve fire, caused a tragedy which fire fighters were unable to avert.

It happened out Sacramento-way on Nov. 21, last, where Mrs. Carroll Mansker had left her infant son William in the bath tub, with his 2½-year-old brother, while she went to the living room to look after another child.

She heard the baby scream. Running to the bathroom she found the baby lying in the tub with the hot water running on him.

Mrs. Mansker ran to a neighbor to telephone the doctor. Two women were talking on the party line. When she told them her baby was badly hurt one woman hung up but the other refused to get off the line. A man subsequently came on the line and began arguing with her, Mrs. Mansker said.

Finally Mrs. Mansker gave up and ran to another neighbor's to phone. She said the delay was about 20 minutes. Little William was dead when an ambulance and firemen arrived.

Hot Off the Tape

Warren Thomas, 34, Albion, N. Y., volunteer fireman who was charged by Albion police with reckless driving for allegedly piloting his car down the wrong side of Main Street while hurrying to the scene of a fire, pleaded guilty and paid a $25 fine. . . . In Cortland, N. Y., firemen were called December 15 to put out a fire in a college student's automobile. They said the student had built a fire between the engine and the radiator to thaw out the latter. There's nothing like a college education! . . . A 50-year-old man was killed December 19 in an explosion in an oxygen tent at the Veterans Administration Hospital, Tupper Lake. Hospital authorities said the cause of the explosion was "not determined." . . .

Down at Jensen Beach, Fla., one Cliff Boone went fishing. He went to fire up his old faithful pipe and when he touched a match to it—BANG! When Boone recovered he explained to fellow fishermen that he had reached into his pocket to fill his pipe with loose 'baccy. A likewise forgotten .22 cal. rifle cartridge was packed with the tobacco in the pipe bowl. The bullet flew upward and glanced off the rim of Boone's bonnet. Boone went on fishing, sans smoke. . . . Fire fighters who have rescued babies, young ladies, cats and canaries, etcetera, have now added chinchillas. In Richmond, Va., the D. E. Perkins family explained that a $5,000 batch of the little South American rodents were in a rock wool-lined compartment in their burning garage. Using axes, the Brothers cut through into the air conditioned chamber to save 'em. . . . Pedro, a fox terrier, of Benton Harbor, Mich., was ousted from the living room of his owner, Mae Case, and relegated to the dog house because he played with matches. Mae said Pedro found a box of matches and lay down in an overstuffed chair for a good chew. She retrieved the lucifers but apparently not all of them, because the chair caught fire a short time later. Firemen put out the small blaze. Mae out Pedro. . . . Some 12,500 day-old chicks were roasted December 9 last when fire destroyed the 4-story Amstutz Broiler House just outside Celina, Ohio. Fire, believed starting from an explosion in the heating plant, ravaged the place despite efforts of two pieces of apparatus from Celina and one from Coldwater. They did save exposures, including four hatchery buildings. . . . Speaking of hatcheries, when fire destroyed the State Trout Hatchery at Bath, N. Y., 1½-million newly hatched fry were boiled, despite near-zero temperature.

Honest Lady, I'm the Chief!

Fire Chief J. C. Fitzgerald, driving his red chief's car, and replete with insignia, pulled up in front of the Asheville, N. C., Biltmore sub-station the other day.

The chief got out of his car and went into the station to check a boiler that had been out of repair.

As he started out, he decided to look over one of the pieces of apparatus on the station floor.

About that time a feminine voice called from a table across the house, asking if he had come there to vote.

"No mam," the chief replied, I vote at Merrimon Avenue."

"Well you'll just have to leave here. This is a precinct for voting," came the emphatic feminine voice.

"I'm sorry lady," the chief said. "It's kinda tough when the fire chief can't visit his own fire station."

A moment of silence. Then: "Are you the fire chief?" came the voice.

Still uncertain as to Fitzgerald's true identity, the poll watcher turned to a uniformed fireman and asked "Is that man over there Chief Fitzgerald?"

Chalk up one vote for the chief!

Thanks *J. C. Robertson*

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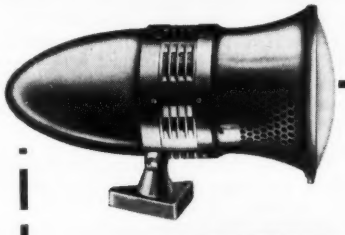

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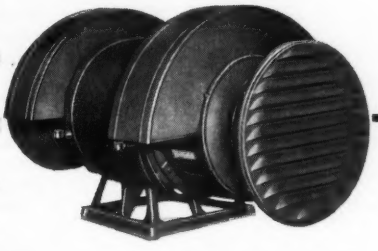

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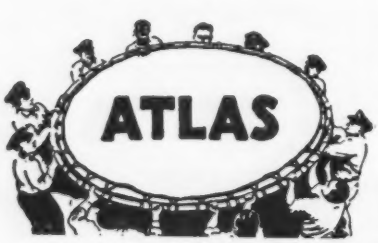

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Questions and Answers

wherein are answered questions relating to current problems in the fire protection

Completion, True and False Questions

Question: **During a fire in a gasoline truck you find gasoline burning which is leaking from the tank and involving the area around the truck. The heat from the fire has caused the vent cap to open. Of the following, the one best act to perform first is to (a) extinguish the fire around the leak; (b) extinguish the fire around the area of the truck; (c) extinguish the fire around the vent or (d) close the vent cap.**

Answer: "b" would probably be the proper procedure, particularly if modern fire extinguishing agents were used. At a fire of this type, fog-foam applied to the area around the truck first would confine the fire to the location of the leak. But the final operation would be knocking the fire down at the area of the leak.

If an attempt were made to put the fire out at the leak, there would be danger of backflashing from the fire burning around the truck. The same procedure would be followed if solid foam streams were employed.

Question: **A moist rag will not ignite spontaneously.**

Answer: This question does not state how the rag is moistened. If it is moistened with water only, there should be no danger of spontaneous ignition. On the other hand, if it is moistened with water and with vegetable or animal oils being present, spontaneous ignition may take place.

Question: **Smoke from carbon monoxide is (a) light; (b) black; (c) yellow; (d) opaque.**

Answer: Carbon monoxide is a colorless gas, and on combining with the proper proportions of oxygen, when burning, practically no smoke is given off. Hence "a" would be the correct one.

Question: **A deputy chief notices that a captain will never discuss company procedure, fire strategy, complaints, etc., with him. He would (a) assume the captain is unusually competent; (b) assume that he is an incompetent officer; (c) assume the captain is not interested; (d) assume that he himself is unapproachable.**

Answer: "d".

Question: **A foam extinguisher having a soda and acid extinguisher nozzle will cause (a) an even flow; (b) an uneven flow; (c) increased pressure in the extinguisher; (d) burst hose.**

Answer: "c".

Question: **During a plane crash fire the most effective results would be obtained by (a) speed in response; (b) type of chemicals used; (c) type of appliances used; (d) amount of extinguishing agents used.**

Answer: These questions are not stated clearly. While speed of response is highly essential when operating on crash fires, due to the rapidity with which the wreckage is involved and destroyed by fire, effective extinguishing results won't be obtained unless the proper type of extinguisher were available.

Question: **Large diameter streams needed to cool down large fires and using wet water may be (a) too expensive; (b) practical; (c) impractical; (d) in most cases impossible.**

Answer: "a".

Question: **The best method of extinguishing a burning tank of asphalt is to (a) flood with water; (b) use foam; (c) use carbon dioxide; (d) use carbon tetrachloride; (e) use fog.**

Answer: In this question sufficient information is not given to indicate the best extinguishing agent to be applied. If the tank were large, it would be necessary to cover the surface with foam in order to extinguish the fire and keep it extinguished until the material cooled off. If it were of smaller diameter, fog and carbon dioxide would be effective. Assuming that the tank is of fairly large area, and the fire is well advanced, then the answer would be "b".

Question: **In order to reduce flow in mains, it is necessary to (a) obtain additional supply from more than one source; (b) increase flow from one source.**

Answer: Friction loss in water mains is reduced by reducing the velocity of flow. If water is obtained from other sources, then the velocity of flow would be reduced in the main and friction loss lessened. "a" would probably be the correct answer.

Question: **A company having a stretch of 350 feet of hose from a 750 gpm pumper using a 1⅜-inch nozzle at 35 pounds nozzle pressure finds the range of stream will not reach the fire, being short by 15 feet. The captain should (a) change the nozzle tip to 1¼-inch; (b) lay parallel lines and siamese into one line 50 feet from the nozzle; (c) increase the nozzle pressure on the first nozzle; (d) lay a stretch of 350 feet of 3-inch hose.**

Answer: "a" would be correct answer. If a 1⅜-inch nozzle at 35 pounds is used on the line, the engine pressure will be 122 pounds. The discharge will be 332 gallons per minute. A range of approximately 75 feet is needed. Thirty-five pounds nozzle pressure gives a range of but 59 feet.

Using a 1½-inch nozzle, the discharge will be 357 gallons per minute at 60 pounds pressure. This would give a range of 75 feet. Engine pressure would be 170

pounds. A 750-gallon pumper should easily discharge 357 gallons per minute at 170 pounds engine pressure.

Question: **A flammable liquid fire is considered extinguished when all the flames have been extinguished.**
Answer: True.

Question: **The most important feature of water distribution is a system of gravity flow.**
Answer: The meaning of this question is not clear. One of the most important features of a water distribution system is cross-connecting, or gridironing. Of course, proper mains and proper valving are also essential.

Question: **The interior of a fire door is made of (a) hard wood; (b) soft wood; (c) solid metal; (d) insulation materials.**
Answer: "d."

Question: **All firemen have police powers when responding to or returning from fires.**
Answer: Again, the answer to this question depends upon your fire department rules and regulations. Some cities do give firemen police powers when responding to or returning from fires, but these are limited.

Question: **The National Electrical Code is a standard of (a) Federal Government; (b) the State; (c) the General Electric Co.; (d) the National Board of Fire Underwriters.**
Answer: "d."

Question: **Water must be applied to burning materials until all the heat is out of the fuel.**
Answer: False.

Question: **Two 1½-inch lines will discharge as much water as one 3-inch line.**
Answer: False.

Question: **A member complains to his captain in an angry tone, expressing his displeasure of an assignment. The captain should (a) refer him to the chief; (b) prefer charges against him; (c) explain the reason for the assignment.**
Answer: "c."

Question: **When a flammable liquid is mixed with a less flammable liquid, the combined mixture then has the characteristic of (a) a higher flammable liquid or (b) a lower flammable liquid.**
Answer: "b."

Question: **When searching a dormitory one of the following constitutes a good search (a) search all rooms, under tables, in closets and under beds; (b) check all persons assigned to the dormitory from a master list to ascertain if any one is missing.**
Answer: "a."

Question: **A metal ceiling becomes greatly heated from a fire. Playing water on one spot will most likely (a) cause the spot to expand; (b) cause the spot to contract; (c) cause the entire ceiling**

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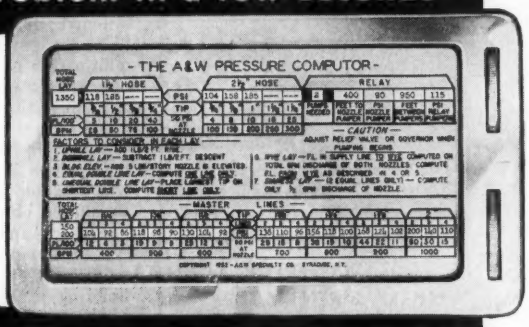

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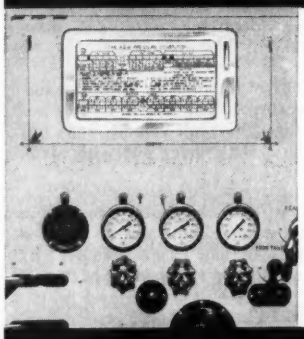

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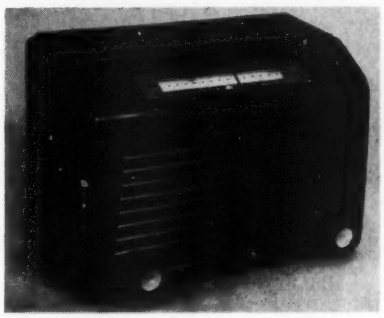

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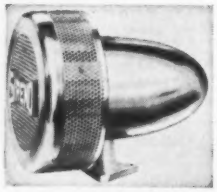

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to contract; (d) cause the ceiling to collapse and fall to the floor.

Answer: "b" would be correct. It is possible that a metal ceiling, if insecurely fastened, might drop upon striking the heated area with a stream. However, this information is not included in the question, so that all that can be expected is the contraction of the heated area when struck with the stream.

Question: **Before ventilating a building which is on fire, one of the following should be observed (a) have a charge line ready and at hand; (b) determine type of combustible material within the building; (c) determine occupancy of building; (d) be sure all the occupants have left the building.**

Answer: Choice "a" is correct. In many instances, early ventilation aids in confining the fire to vertical channels, permitting rescue operations to be made more effectively.

Question: **In a pile of burning sawdust the best extinguishing agent is (a) low velocity fog; (b) high velocity fog; (c) solid streams; (d) cover pile with foam.**

Answer: "c".

Question: **The compound gauge of a centrifugal pump should not be allowed to register less than (a) 5 pounds; (b) 10 pounds; (c) 15 pounds; (d) 20 pounds.**

Answer: "a".

Question: **A solid piece of carbon gives off a great deal of smoke when ignited.**

Answer: False. Carbon when burned by itself gives little, if any, smoke.

Question: **A lay of 3-inch hose of 8 lengths is then reduced and continued with a lay of 3-inch hose with 2½-inch couplings of 4 lengths. What is the friction loss increase?**

Answer: As the flow through the line is not given, no specific answer can be advanced as to the actual increase of friction loss. We shall assume that the flow is 300 gallons per minute.

The increase in friction loss of 3-inch hose with 2½-inch couplings over 3-inch hose with 3-inch couplings is but ½ pound per 100 feet for the same flow. The friction loss in 400 feet of 3-inch hose at 300 gallons per minute is equal to 4×8.2, or 32.8 pounds. The friction loss in 200 feet of 3-inch hose with 2½-inch couplings at a flow of 300 gallons per minute is equal to $2 \times (8.2 + .5)$, or 17.4 pounds.

The friction loss increases from 32.8 pounds to 50.2 pounds by adding on the 200 feet of 3-inch hose with 2½-inch couplings, or a percentage increase of 53 per cent.

Question: **If you overheard two of your men criticizing your methods of carrying out orders, you should (a) explain your reasons for such actions; (b) pretend you did not hear them; (c) prefer charges against both of them; (d) report their actions to the battalion chief.**

Answer: The answer to this question should be found in the rules and regulations of your department. Incidentally, it is best for an officer to explain the reasons for his actions, where question is raised. If further controversy arises, then would be the time to make a report to the battalion chief.

Question: **The greatest cause of spreading inside fires is by air currents.**

Answer: True.

Question: **All solid materials will conduct heat at the same rate.**

Answer: False.

Question: **In overcoming friction, heat is given off.**

Answer: True.

Engine Pressure Where Line Is Laid Up an Incline

To the Editor:

Two lines of 2½-inch hose, each 200 feet in length, are siamesed into 50-foot length of 2½-inch hose attached to a ladder pipe 35 feet high. The nozzle is 1½-inches in diameter and nozzle pressure is 70 pounds. What is the engine pressure?

G. A. L.

Answer: The solution to the problem which you give is as follows:

First change the two 200-foot lines into a single line of 2½-inch hose. The conversion factor is 3.6.

$200 \div 3.6 = 55.56$ feet.

Add to this figure the 50-foot line stretched up the ladder, giving a total length of 2½-inch hose, single line, 105.56 feet.

Then solve for engine pressure.

Engine Pressure = Nozzle Pressure $\times$ $(1.1 + KL)$.

Nozzle pressure = 70 pounds.

K, for 1½-inch nozzle on 2½-inch hose, is .505.

L, the number of 50-foot lengths of hose in the line, is $105.56 \div 50$, or 2.11.

Then E. P. $= 70 \times (1.1 + .505 \times 2.11)$
$= 70 \times 2.166$
$= 151.62$ pounds.

This is the pressure necessary to give 70 pounds at the nozzle if the hose is laid horizontally.

But you have a back pressure to consider due to the elevation of the nozzle above the engine. This elevation is 35 feet, and the back pressure is $35 \times .434$, or 15.19 pounds.

The corrected engine pressure is then equal to $151.62 + 15.19$, or 166.8 pounds approximately.

Fire Engine Ratings, Etc.

To the Editor:

How did the National Board of Fire Underwriters and the fire apparatus manufacturers arrive at their formula for rating pumping engines?

Does the National Board give additional credit for having a high pressure pump on apparatus to create 1,000 pounds pump pressure?

Are high pressure pumps recognized by the National Board and, if so, to what extent?

Are foam and wet water poisonous if

taken by mouth, and if so, what are the antidotes?

F. P. S.

Answer: The ratings of fire engines, Class B, were established on the basis of what an average well built fire engine could discharge at different pressures.

Originally the Class B rating was the only one recognized, but as better pumps were made and better motors produced, it was possible to secure greater discharges and pressures than with the original Class B ratings. Therefore the Class A rating was set up to enable fire departments to buy fire apparatus with better performance characteristics.

With reference to National Board of Fire Underwriters' credit for high pressure pumps, designed to give up to 1,000 pounds pressure, we are informed that the National Board gives no extra credit for such pumps. However, some of the State Rating Organizations might allow credit for the inclusion of high pressure units, even though the National Board doesn't.

So far as we know, neither foam nor wet water is poisonous. As a matter of fact, cattle have been known to eat hay following a hay fire extinguished by wet water streams, with no ill effects. With foam, the chemicals employed neutralize each other so that the foam itself is commonly not considered toxic. Of course, nobody would want to drink the straight wetting agent or any ingredient of liquid foam without dilution or neutralization. But as delivered on a fire, the chemicals are either neutralized or so diluted as to represent no recognized hazard from poisoning.

Jet Crash Gets Foam Treatment

An F-86-D Air Force Sabre jet exploded 9,000 feet over Levittown, Long Island, on Dec. 27, last, and the flaming wreckage crashed in three widely scattered locations, providentially without injury to residents of the closely-built community or to the pilot, who bailed out at about 6,000 feet.

The fuselage crashed into a parked automobile and a bicycle at the curb in front of 103 Blacksmith Road, Levittown; the tail section came down in the street at Central Boulevard and Stewart Avenue and a wing landed three blocks from the tail assembly on Windhurst Avenue, Bethpage, about three miles from the place where the fuselage hit.

When the latter assemblage crashed into the car, it exploded again and car and wreckage burned fiercely, punctuated by explosions of .50 cal. machine gun bullets detonated by the heat.

Crash fire fighters from Mitchell Air Force Base under Chief Milton Fisher were quickly on the scene and laid a heavy foam blanket on the wreckage and spillage. The crash occurred about 2:40 P.M. and within 30 minutes the Air Force fire crews, aided by volunteers from the area, had the situation under control.

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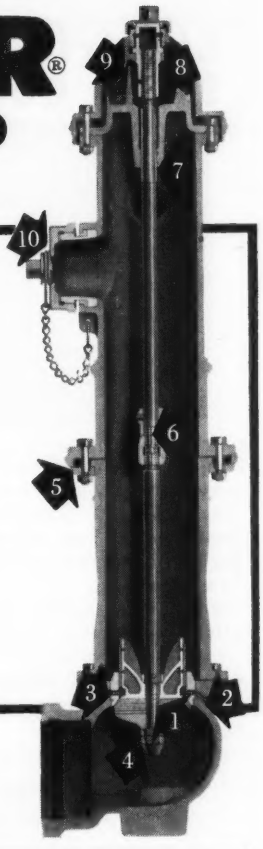

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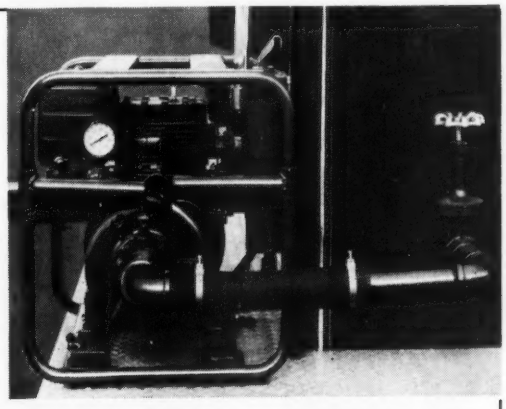
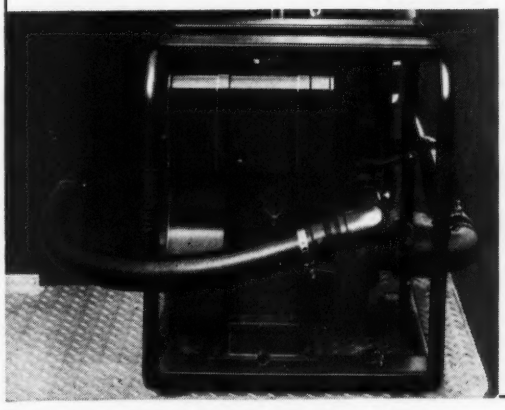
Picture at right shows Hale FZZ portable pumping unit (from Suction Side) neatly installed on running board of pumper. Shut-off valve at right leading from Booster tank.





Left . . . view of FZZ from Discharge Side showing Discharge running into Booster line.

Pump can be easily detached to fight fire direct; as standby pump; or to supply larger pumper from source of water inaccessible to the pumper.

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Fire District Orders Numbering System for Houses

All houses in the Antioch, Ill., First Fire Protection District must be numbered, according to an ordinance recently passed by the district's president and board of trustees.

A penalty of $5 to $20 will be assessed on failure to follow out the instructions, which call for numbering houses in subdivisions according to block and lot "or other such plan as shall be directed by Antioch's Fire Chief Edgar Simonsen."

Chief Simonsen will assign each house its number and the property owner or agent will be required to post the number on the house so that it can be seen from the roadway.

In the case of future construction of houses, the number must be posted within 30 days after completion of the building. The fire chief shall keep a plat of the numbers, and where there is duplication of numbers, or disagreement as to the proper number, "the fire chief will direct the designation of a number."

The ordinance is said to be the result of an experiment tried in a subdivision where houses are numbered in this manner. The result has been that the Antioch Fire Department, which serves the Fire District, is able to find its way to the designated place with a minimum amount of trouble, and no confusion.

FIRE ENGINEERING has published numerous accounts of numbering systems for identifying houses in rural and suburban areas to speed response of fire fighters, but this is the first ordinance, compelling such numbering, to come to hand, and placing the responsibility for such identification in the hands of the fire department.

Using the Old Bean!

Three members of the Kent Fire Brigade (England) have been awarded the British Empire Medal for their gallant conduct in rescuing four men trapped in a 60 ft. deep manhole at Belevedere Power Station, Erith, on August 2, last. The three rescuers were Sub-Officer W. L. E. Tunstall, Leading Fireman W. J. Way and Fireman T. A. Graves.

At the bottom of the manhole was a plank on which was a small petrol pump. The manhole was heavily charged with carbon-monoxide from the pump's exhaust and four men had been overcome by the fumes—three of them on the staging and one at the bottom of the shaft, the latter having fallen from near the top and crashed through the staging.

When the Brigade crew arrived, Sub-Officer Tunstall noticed that an oxy-acetylene cutting plant lay near the entrance and gave instructions for the oxygen to be turned full on and for a tube to be lowered with the lines used for rescuing the men. The firemen descended the shaft by ladder wearing "B.A. sets" and were able to spray oxygen around the faces of the victims before securing and hauling them to the surface.

The Fireman, London, Eng.

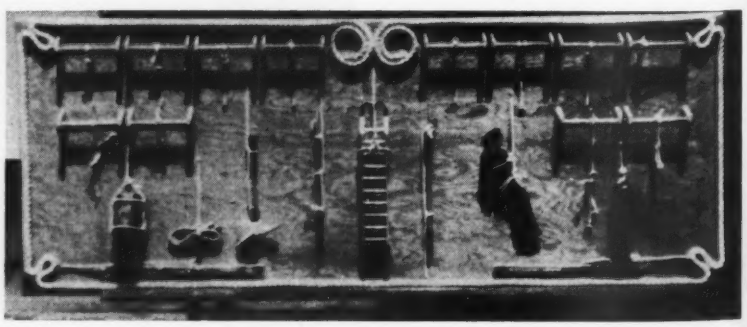
Aid to Teaching Knots at San Diego Naval Base

In the past, "Short Cuts and Gadgets" has published a number of ideas for teaching the art of knot-making. Now comes another suggestion that is worthy of publication, from Roe Hamilton of the U. S. Naval Training Station, San Diego, Cal.

Actually, the contribution came from his admiring lady, Mrs. R. M. Hamilton, who writes: "Here's a photo of a board my husband figured out to teach firemen new on the job, the proper ways to tie knots used in fire fighting. It has been very helpful here at the Naval Training Station, so I thought you might be interested in the idea."

The Naval Training newspaper "The Hoist" also gave Mr. Hamilton's training board a nice plug. The board is of wood and measures 4 x 5 feet; it stands on an easel. It shows not only the fundamental knots used in fire fighting and rescue, but also their more common application with tools and equipment.

Incidentally, Roe Hamilton is fire captain of Pumper 2 at the NTS.



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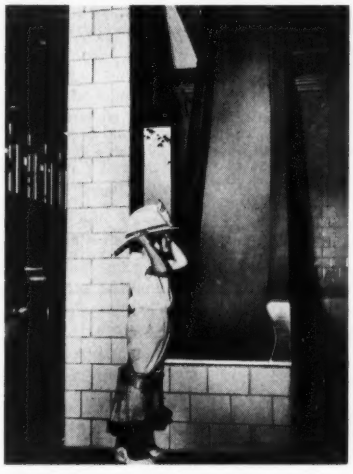
Slide Replaces Pole

Birmingham, Mich., firemen have taken to stainless steel to help speed up response in answering alarms.

The city's new firehouse is equipped with what is said to be the first stainless steel firemen's slide. It is designed to replace the old brass pole that has been used for so many years by the fire service.



Youthful visitor at Birmingham, Mich., fire station tries on some firemen's equipment while contemplating a ride

The stainless steel slide, according to Fire Chief Park Smith, has a number of safety features, the most important being that it should eliminate the possibilities of broken bones, which has characterized old-style poles.

The stainless steel slide offers more support and safety than the pole, Chief Smith says.

The slide, which connects the ground and second floor in the new fire station, is about 20 feet long and 12 feet high. The end is 18 inches above the first floor level and at the top is surrounded on three sides by a tile retaining wall. The steel part of the slide is two feet wide, with 8 inch high birch side bars.

The metal is reported easy to keep clean, and it will not rust. The slide is the work of the Chissus Construction Company, Birmingham, Mich., which also erected the firehouse. Former Fire Chief V. W. Griffith suggested the idea to the construction company.

Union Oil Fire Fighting Course Resumed in L. A.

The Union Oil Company recently resumed its training program to teach all refinery workers how to fight industrial fires. The program had been halted for a year by smog laws.

Under new legislation, the company is permitted to use smoke pots and blazing oil sumps to train firemen when the Air Pollution Control District declares "Smog Green."—*Paul Ditzel*

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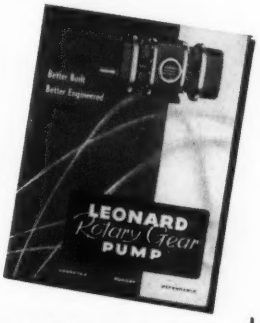

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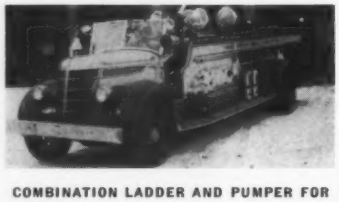

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2—35' }
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Mechanical foam playpipes, Phomaire, less pickup tube (Worth $45.00)	8.00 ea.
Mechanical foam playpipes, Phomaire, complete with pickup tube (Worth $55.00). Our price only	15.00 ea.
2½" Siamese connections, plain, 1 male and 2 female, NST	4.75 ea.
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1½"x12" Plain hose nozzles, brass, IPT	1.25 ea.
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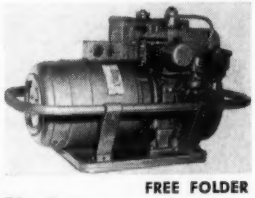

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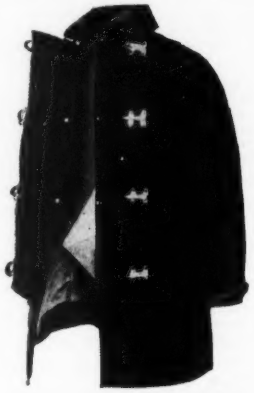

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Three Alarm Fire Hits Buffalo, N. Y. Landmark

Four Buffalo, N. Y., firemen suffered injuries, October 12, while battling a three-alarm fire which caused an estimated $50,000 damage to the Zion Evangelical and Reformed Church, which would have been 110 years old in 11 days.

The church, located at 40 Lemon Street, was undergoing volunteer remodeling by parishioners, and several cans of paint stored on the second floor helped spread flames.

Deputy Fire Commissioner Edward T. Ostolski said defective wiring in a second floor meeting room in the rear of the old church probably touched off the fire.

The Rev. Arthur A. Van Camp, minister, said a meeting of the church's Women's Social Service Group had disbanded at 3:40 p.m. Neighbors saw smoke billowing from windows at 4:22 and turned in the alarm.

Battalion Chief James Curtin of the Second Battalion and his men found flames roaring through the church's wooden framework upon their arrival. He radioed for a second alarm at 4:24 and called for a third at 4:27. The fire was pronounced under control at 5:35, but not before part of the roof had tumbled and much of the building's interior had been destroyed or heavily damaged.

The first firemen to arrive raced the entire length of the flaming building to save most articles from the altar and church records. One of the injured firemen, George Nichols of Hook and Ladder 1, was struck in the face by a piece of falling debris and suffered cuts of the nose and mouth.

The Rev. Van Camp said he and the sexton, 61-year-old Frank Braymond, checked the building and locked up just before they left around 4 o'clock.

Paul Ditzel

Arson Seminar Announced

The Public Safety Institute of Purdue University with the support of the International Association of Arson Investigators and many other national and state agencies interested in the recognition, investigation, prosecution and prevention of the crime of arson will hold a five day intensive training program from April 23 to 27, 1956. The seminar will be held in the Memorial Union Building on the Purdue campus in Lafayette, Ind.

The 12th Annual Seminar with international recognition will provide the nation's most outstanding lecturers on the subject of arson. There will be training for the new enrolee, advanced investigative techniques, review of latest laboratory aids and specific training that will lead to more effective detection, apprehension, prosecution and conviction of the arsonist.

For additional information concerning the seminar, address Professor Shelby Gallien, Seminar Director, Public Safety Institute, Purdue University, Lafayette, Ind.

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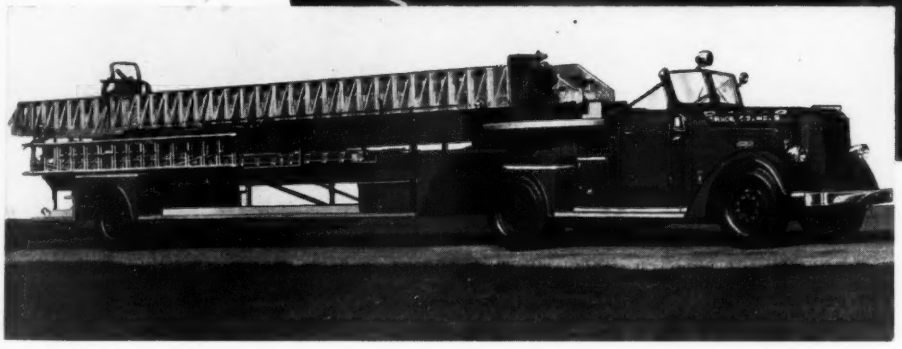

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